

# CHELIC® PNEUMATIC

Ver. 1-8

CAT-1802

## PRODUCT CATALOGS



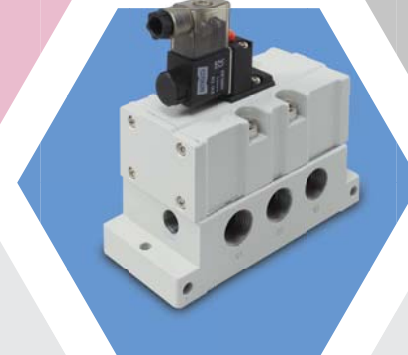
TAIWAN CHELIC CORP LTD.



SHANGHAI CHELIC PNEUMATIC CORP.



SHENZHEN CHELIC PNEUMATIC CORP.



Manufacturer

TAIWAN CHELIC CORP. LTD.  
<http://www.chelic.com>



The specification are subject to change without advance notice.

WE SUPPLY SPECIALIZED PNEUMATIC EQUIPMENTS.



## COMPANY OVERVIEW



CHELIC was founded in 1986 and with headquarter in New Taipei of Taiwan. The company has been specializes in the production of pneumatic components the range includes FRL units, valves, actuators, sub-accessories, modularized units and electro control units that applying in machinery sectors such as production facilities, factory automation, inspection equipment, education equipment and other equipment.

CHELIC is known as a brand name widely and cooperated with global distributors in different countries to provide service and assigned by well-known automation companies as OEM suppliers either in domestic or overseas.

CHELIC has been inventing in R&D field and quality improvement for years to offer various designs so that brand name CHELIC level up in the automation sectors. The center of goal is assisting customers to enhance their production efficiency and lower down manufacturing cost thus turning to royalty suppliers and backup. We, Chelic, look forward to having your supporting and sharing in any aspect.

## COMPANY DEVELOPMENT

- 1986 Taiwan Chelic Corp. Ltd. founded and located in New Taipei City
- 1990 In cooperation with KOGANEI Japan for air unit to import advanced equipment and production technology
- 1991 Air cylinders and valves launched
- 1995 Obtained ISO 9002 to implementing Quality System thoroughly
- 1998 Obtained ISO 9001 invigorating Research and Development
- 2001 TUV accredited that Electrical Safety qualification conformed to CE MARK
- 2001 Shanghai Chelic Pneumatic Corp. established in Shanghai City
- 2002 Enterprise Resource Planning system (ERP) implemented
- 2003 Rotary vane cylinder launched
- 2004 Slide table cylinder introduced
- 2005 Air grippers released
- 2008 Rodless cylinder rolled out
- 2009 Qualified and classified as ODM supplier by TAIYO Japan company
- 2010 The automated warehouse system and computerized management activated of new building located in Taishan of New Taipei City
- 2011 Intergrating all systems and information through out the Group
- 2013 The new plant in Songjiang, Shanghai started started to operate
- 2014 The Shenzhen branch activated providing service to domestic customers from southern China
- 2015 The phase 2 construction of Taishan facility completed and operated
- 2015 Being publicly listed company with stock code 4555
- 2015 Four designs included Precision regulator and Horizatal rotary cylinder awarded by 2016 TAIWAN EXCELLENCE
- 2016 Electric actuators launched
- 2016 Six designs included Rotary gripper and Modulerized vaccume ejector awarded by 2017 TAIWAN EXCELLENCE
- 2017 Electro-Pneumatic Regulator announced
- 2017 8 type designs included direct operated solenoid valve \ energy saving vacuum equipment \ energy saving precision pressure regulator won the 2018 TAIWAN EXCELLENT AWARD







**HDQ Series**  
Parallel  
Gripper



**ER Series**  
Precision  
Regulator



**ERP Series**  
Precision  
Regulator



**SF Series**  
Solenoid  
Valve



**PRU Series**  
Rodless  
Cylinder



**SKV 507 Series**  
Directional  
Control Valve



**ERX Series**  
Precision  
Regulator



**RBZ Series**  
Rotary  
Gripper



**RMT Series**  
180° Rotary  
Gripper



**EVM Series**  
Vacuum  
Ejector



**RMF Series**  
Rotary  
Cylinder



**RMZ Series**  
Rotary  
Gripper



**MRY Series**  
Magnetic  
Rodless  
Cylinder



**VK Series**  
Vacuum  
Ejector



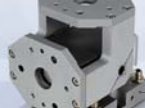
**VQ 20 Series**  
Vacuum  
Ejector



**SKB 300 Series**  
Directional  
Control Valve



**RTL Series**  
90° Swivel  
Module



**MDQ Series**  
Slide Table  
Cylinder







## AIR UNIT

### F.R.L. Combination



- **NC** ----- F.R.L Combination ----- P.17
- **NFC** ----- FR.L Combination ----- P.17
- **NFR** ----- Filter Regulator ----- P.17
- **NF** ----- Air filter ----- P.18
- **NR** ----- Regulator ----- P.19
- **NL** ----- Lubricator ----- P.19

### F.R.L. Combination



- **AC/BC/CC** ----- F.R.L Combination ----- P.22
- **AFC/BFC/CFC** ----- FR.L Combination ----- P.22
- **AFR/BFR/CFR** ----- Filter Regulator ----- P.22
- **AF/BF/CF** ----- Air filter ----- P.22
- **AR/BR/CR** ----- Regulator ----- P.23
- **AL/BL/CL** ----- Lubricator ----- P.23



## AIR UNIT

### Mist Separator



- **MF series** ----- P.18
- **MFD series** ----- P.18
- **MFR series** ----- P.17
- **MFRD series** ----- P.18

### Mini Regulator



- **NPR-100 series** ----- P.20
- **NPR-200 series** ----- P.20
- **NPR-300 series** ----- P.20

### Large - Sized Filter



- **DM-200 series** ----- P.19
- **DM-300 series** ----- P.19
- **DM-500 series** ----- P.19
- **DM-800 series** ----- P.19



## AIR UNIT

### Precision Regulator



- **ERX series** ----- P.20
- **ERP series** ----- P.20
- **CVTR series** ----- P.21
- **FC series** ----- P.21

### Exhaust valve / Auto Drain Trap



- **AFB series** ----- P.21
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### F.R.L. Combination (All Plastic)



- **PFC series** ----- P.23
- **PFR series** ----- P.23
- **PF series** ----- P.23
- **PL series** ----- P.23



## VALVE

### Solenoid Valves



- **SM series** ----- P.25
- **SMB series** ----- P.26
- **SMU / SMUB series** ----- P.26
- **SR series** ----- P.27
- **SRB series** ----- P.28
- **SRU / SRUB series** ----- P.28

### DIN Rail Cassette Type Valves



- **SF-300 series** ----- P.29
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### Solenoid Valves



- **SRK series** ----- P.30
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- **SKU series** ----- P.31
- **SV series** ----- P.31
- **SV310 series** ----- P.31
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## VALVE

### 2 Ports Solenoid Valve



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- SU series ..... P.34
- SUB series ..... P.33
- SUD series ..... P.34
- SUD2 series ..... P.34
- SUW series ..... P.34
- SUW2 series ..... P.34
- SUS series ..... P.34
- SAS series ..... P.34
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- QEBC series ..... P.39
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- QEUC series ..... P.40

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## CYLINDER

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## CYLINDER

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## CYLINDER

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- DBS2 series ..... P.49
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## CYLINDER

### Clamp Cylinder



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- MRB series ..... P.55
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## CYLINDER

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### Slide Table Cylinder



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## CYLINDER

### Slide Table Cylinder



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### Dual Rod Cylinder



- TD series ..... P.58
- TDX series ..... P.58
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### Dual Rod Cylinder



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## CYLINDER

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- TB(U)2 series ..... P.59
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### Guide Cylinder



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## CYLINDER

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- RTL series ..... P.71
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## GRIPPER

### Mini Gripper



- HDD series ..... P.67

### Gripper



- HDS series ..... P.67
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## GRIPPER

### Rotary Gripper



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### Vacuum Ejector



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- EVM series ..... P.73

### Vacuum Ejector



- VAB series ..... P.73
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## VACUUM EQUIPMENT

### Vacuum Ejector



- VMB series ..... P.74
- VMD series ..... P.74
- VML series ..... P.74
- VMK series ..... P.74
- VMT series ..... P.74
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- VK20B series ..... P.76
- VK20S series ..... P.76
- VK20T series ..... P.76
- VK20ST series ..... P.76
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### Fitting



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## VACUUM EQUIPMENT

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### Vacuum Pad



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- PATS ..... P.78
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- SL / SLB / SLR / SLBR ..... P.93
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- PU / PUL / PN ..... P.96

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## ASSEMBLY PICK AND PLACE ROBOT

### Assembly pick and place robot



- APR2 series ..... P.97
- APS2 series ..... P.97
- APL2 series ..... P.98



## RELATED CALCULATION INFORMATION

### Compressed air consumption, various flow rate conversion table

#### ■ Air flow and consumption

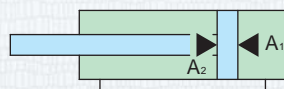
$$Q_A = (A_1 + A_2) \times L \times \frac{P+1.033}{1.033} \times 10^{-3}$$

$$Q_B = 2 \times A_3 \times L \times \frac{P}{1.033} \times 10^{-3}$$

$$Q_n = (Q_A + Q_B) \times n$$

- |  |   |
|--|---|
| Qn : Air consumption of cylinder movement / time ( L / min )                 | A <sub>3</sub> : Inside diameter of piping (cm <sup>2</sup> ) |
| QA : Air consumption of cylinder Backward and time ( L / min )               | L : Stroke of cylinder (cm)                                   |
| QB : Air consumption of piping (Between solenoid valve and cylinder) (L/min) | LH : Piping length (cm)                                       |
| A <sub>1</sub> : Piston area (cm <sup>2</sup> ) (Pushing)                    | P : Operation pressure (kgf/cm <sup>2</sup> )                 |
| A <sub>2</sub> : Piston area (cm <sup>2</sup> ) (Pulling)                    | n : Operation frequency                                       |

#### ■ Compressed air consumption table



Bore size (mm)		10	12	16	20	25	32	40	50	63	80	100	125	160	200	250
Rod size (mm)		4	6	6	8	10	12	16	20	20	25	25	36	40	40	50
Piston area (cm <sup>2</sup> )		A <sub>1</sub>	A <sub>2</sub>	A <sub>1</sub>	A <sub>2</sub>	A <sub>1</sub>	A <sub>2</sub>	A <sub>1</sub>	A <sub>2</sub>	A <sub>1</sub>	A <sub>2</sub>	A <sub>1</sub>	A <sub>2</sub>	A <sub>1</sub>	A <sub>2</sub>	A <sub>1</sub>
Operating air Pressure (kgf/cm <sup>2</sup> )	1	0.03	0.04	0.1	0.1	0.2	0.3	0.5	0.7	1.2	1.9	3.0	4.7	7.8	12.3	19.2
	2	0.04	0.06	0.1	0.2	0.3	0.4	0.7	1.1	1.8	2.9	4.6	7	11.7	18.5	28.9
	3	0.06	0.08	0.2	0.2	0.4	0.6	0.9	1.4	2.4	3.8	6.1	9.4	15.6	24.6	38.5
	4	0.07	0.1	0.2	0.3	0.5	0.7	1.2	1.8	3.0	4.8	7.6	11.7	19.5	30.8	48.1
	5	0.09	0.12	0.2	0.3	0.6	0.9	1.4	2.2	3.6	5.7	9.1	14.1	23.4	37	57.7
	6	0.1	0.14	0.3	0.4	0.6	1.0	1.6	2.5	4.1	6.7	10.6	16.4	27.3	43.1	67.4
	7	0.12	0.2	0.3	0.5	0.7	1.2	1.8	2.9	4.7	7.6	12.2	18.8	31.2	49.3	77
	8	0.13	0.2	0.3	0.5	0.8	1.3	2.1	3.3	5.3	8.6	13.7	21.1	35	55.4	86.6
	9	0.14	0.2	0.4	0.6	0.9	1.5	2.3	3.6	5.9	9.6	15.2	23.5	39	61.6	96.2

● The table is the total air consumption for a complete cycle of 100mm stroke.

#### ■ Various flow rate conversion table

Unit	m <sup>3</sup> /s	l/s	cm <sup>3</sup> /s	m <sup>3</sup> /h	m <sup>3</sup> /min	l/h	l/min	ft/min (scfm)	gallon min UK	gallon min USA
m <sup>3</sup> /s	1	10 <sup>3</sup>	10 <sup>6</sup>	3.6x10 <sup>6</sup>	60	3.6x10 <sup>6</sup>	60x10 <sup>3</sup>	2.12x10 <sup>3</sup>	13.2x10 <sup>3</sup>	15.85x10 <sup>3</sup>
l/s	10 <sup>-3</sup>	1	10 <sup>3</sup>	3.6	60x10 <sup>-3</sup>	3.6x10 <sup>6</sup>	60	2.12	13.2	15.85
cm <sup>3</sup> /s	10 <sup>-6</sup>	10 <sup>-3</sup>	1	3.6x10 <sup>-3</sup>	60x10 <sup>-6</sup>	3.6	60x10 <sup>-3</sup>	2.12x10 <sup>-3</sup>	13.2x10 <sup>-3</sup>	15.85x10 <sup>-3</sup>
m <sup>3</sup> /h	0.28x10 <sup>-3</sup>	0.28 <sup>-3</sup>	0.28x10 <sup>3</sup>	1	16.67x10 <sup>3</sup>	10 <sup>3</sup>	16.67	0.59	3.67	4.4
m <sup>3</sup> /min	16.67x10 <sup>-3</sup>	16.67	16.67x10 <sup>3</sup>	60	1	60x10 <sup>3</sup>	10 <sup>3</sup>	35.31	219.97	264.17
l/h	0.28x10 <sup>-6</sup>	0.28x10 <sup>-3</sup>	0.28	10 <sup>-3</sup>	16.67x10 <sup>-6</sup>	1	16.67x10 <sup>-3</sup>	0.59x10 <sup>-3</sup>	3.67x10 <sup>-3</sup>	4.4x10 <sup>-3</sup>
l/min	16.67x10 <sup>-6</sup>	16.67x10 <sup>-3</sup>	16.67	60x10 <sup>-3</sup>	10 <sup>-3</sup>	60	1	35.31x10 <sup>-3</sup>	219.97x10 <sup>-3</sup>	264x10 <sup>-3</sup>
ft/min (scfm)	0.47x10 <sup>-3</sup>	0.47	0.47x10 <sup>3</sup>	1.699	28.32x10 <sup>-3</sup>	1.699x10 <sup>3</sup>	28.32	1	6.23	7.48
gallon min UK	75.79x10 <sup>-6</sup>	75.79x10 <sup>-3</sup>	75.77	0.273	4.55x10 <sup>-3</sup>	0.273x10 <sup>3</sup>	4.55	0.16	1	1.2
gallon min USA	63.09x10 <sup>-6</sup>	63.09x10 <sup>-3</sup>	63.09	0.227	3.79x10 <sup>-3</sup>	0.227x10 <sup>3</sup>	3.79	0.13	0.83	1

## RELATED CALCULATION INFORMATION

### Theoretic force and various pressure conversion table

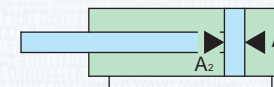
CHELIC PNEUMATIC

#### ■ The calculation method of cylinder force

$$F = P \times A - f$$

F : Cylinder force (kgf)      A : Piston area (cm<sup>2</sup>)  
P : Operating pressure (kgf/cm<sup>2</sup>)      f : Frictional force (kgf)

#### ■ Compressed air consumption table



Unit : Kgf

Bore size (mm)		10	12	16	20	25	32	40	50	63	80	100	125	160	200	250	
Rod size (mm)		4	6	6	8	10	12	16	20	20	25	25	36	40	40	50	
Piston area (cm <sup>2</sup> )		A <sub>1</sub>	A <sub>2</sub>	A <sub>1</sub>	A <sub>2</sub>	A <sub>1</sub>	A <sub>2</sub>	A <sub>1</sub>	A <sub>2</sub>	A <sub>1</sub>	A <sub>2</sub>	A <sub>1</sub>	A <sub>2</sub>	A <sub>1</sub>	A <sub>2</sub>	A <sub>1</sub>	
Operating air Pressure (kgf/cm <sup>2</sup> )	1	A <sub>1</sub>	0.8	1.1	2.0	3.1	4.9	8.0	12.5	19.6	31.2	50.2	78.5	122.7	201	314.1	490.8
		A <sub>2</sub>	0.6	0.9	1.7	2.6	4.1	6.9	10.6	16.5	28.0	45.3	73.6	112.5	188.4	301.5	471.2
	2	A <sub>1</sub>	0.8	1.1	2.0	3.1	4.9	8.0	12.6	19.6	31.2	50.2	78.5	122.7	201	314.1	490.8
		A <sub>2</sub>	0.6	0.9	1.7	2.6	4.1	6.9	10.6	16.5	28.0	45.3	73.6	112.5	188.4	301.5	471.2
	3	A <sub>1</sub>	1.6	2.3	4.0	6.3	9.8	16.1	25.1	39.3	62.3	100.5	157.0	245.4	402.1	628.3	981.6
		A <sub>2</sub>	1.2	1.7	3.5	5.3	8.2	13.8	21.1	33.0	56.0	90.7	147.2	225	376.9	603.1	942.4
	4	A <sub>1</sub>	2.4	3.4	6.0	9.4	14.7	24.1	37.7	58.9	93.5	150.7	235.5	368.1	603.1	942.4	1472.4
		A <sub>2</sub>	1.8	2.5	5.2	7.9	12.4	20.7	31.7	49.5	84.0	136.0	220.8	337.5	565.4	904.7	1413.6
	5	A <sub>1</sub>	3.2	4.5	8.0	12.6	19.6	32.2	50.2	78.5	124.6	201.0	314.0	490.8	804.2	1256.6	1963.2
		A <sub>2</sub>	2.4	3.4	6.9	10.6	16.5	27.6	42.2	65.9	112.1	181.3	294.4	450	753.9	1206.2	1884.8
	6	A <sub>1</sub>	4.0	5.7	10.1	15.7	24.5	40.2	62.8	98.1	155.8	251.2	392.5	613.5	1005.3	1570.8	2454
		A <sub>2</sub>	3	4.2	8.7	13.2	20.6	34.5	52.8	82.4	140.1	226.7	368.0	562.5	942.4	1507.8	2356
	7	A <sub>1</sub>	4.7	6.8	12.1	18.9	29.4	48.2	75.4	117.8	186.9	301.4	471.0	736.2	1206.3	1884.9	2944.8
		A <sub>2</sub>	3.6	5.1	10.4	15.8	24.7	41.5	63.3	98.9	168.1	272.0	441.6	675	1130.9	1809.4	2827.2
	8	A <sub>1</sub>	5.5	7.9	14.1	22.0	34.3	56.3	87.9	137.4	218.1	351.7	549.5	858.9	1407.4	2199.1	3435.6
		A <sub>2</sub>	4.2	5.9	12.1	18.5	28.9	48.4	73.9	115.4	196.1	317.3	515.2	787.5	1319.4	2110.9	3298.4
	9	A <sub>1</sub>	6.3	9.0	16.1	25.1	39.3	64.3	100.5	157.0	249.3	401.9	628.0	981.6	1608.4	2513.2	3926.4
		A <sub>2</sub>	4.8	6.8	13.8	21.1	33.0	55.3	84.4	131.9	224.1	362.7	588.8	900	1507.9	2412.5	3769.6
9	A <sub>1</sub>	7.1	10.2	18.1	28.3	44.2	72.3	113.0	176.6	280.4	452.2	706.5	1104.3	1809.5	2827.4	4417.2	
	A <sub>2</sub>	5.4	7.6	15.5	23.8	37.1	62.2	95.0	148.4	252.1	408.0	662.4	1012.5	1696.4	2714.1	4240.8	

● Note : The above data for reference only . When come to actual practice , frictional force and the mechanical efficiency have to be taken into consideration.

#### ■ Pressure conversion table

Unit	Pa	KPa	MPa	bar	mbar	kgf/cm <sup>2</sup>	cmH <sub>2</sub> O	mmH <sub>2</sub> O	mmHg	p.s.i.
Pa	1	10 <sup>-3</sup>	10 <sup>-6</sup>	10 <sup>-5</sup>	10 <sup>-2</sup>	10.2x10 <sup>-6</sup>	10.2x10 <sup>-3</sup>	101.97x10 <sup>-3</sup>	7.5x10 <sup>-3</sup>	0.15x10 <sup>-3</sup>
KPa	10 <sup>3</sup>	1	10 <sup>-3</sup>	10 <sup>-2</sup>	10	10.2x10 <sup>-3</sup>	10.2	101.97	7.5	0.15
MPa	10 <sup>6</sup>	10 <sup>3</sup>	1	10	10 <sup>4</sup>	10.2	10.2x10 <sup>3</sup>	101.97x10 <sup>3</sup>	7.5x10 <sup>3</sup>	0.15x10 <sup>3</sup>
bar	10 <sup>5</sup>	10 <sup>2</sup>	10 <sup>-1</sup>	1	10 <sup>3</sup>	1.02	1.02x10 <sup>3</sup>	10.2x10 <sup>3</sup>	750.06	14.5
mbar	10 <sup>2</sup>	10 <sup>-1</sup>	10 <sup>-4</sup>	10	1	1.02x10 <sup>-3</sup>	1.02	10.2	0.75	14.5x10 <sup>-3</sup>
kgf/cm <sup>2</sup>	98066.5	98.07	98.07x10 <sup>-3</sup>	0.98	980.67	1	1000	10000	735.56	14.22
cmH <sub>2</sub> O	98.0665	98.07x10 <sup>-3</sup>	98.07x10 <sup>-6</sup>	0.98x10 <sup>-3</sup>	0.98	10 <sup>-3</sup>	1	10	0.74	14.22x10 <sup>-3</sup>
mmH <sub>2</sub> O	9.80665	9.807x10 <sup>-3</sup>	9.807x10 <sup>-6</sup>	9.807x10 <sup>-6</sup>	9.807x10 <sup>-3</sup>	10 <sup>-4</sup>	0.1	1	73.56x10 <sup>-3</sup>	1.42x10 <sup>-3</sup>
mmHg	133.32	133.32x10 <sup>-3</sup>	133.32x10 <sup>-6</sup>	1.33x10 <sup>-3</sup>	1.33	1.36x10 <sup>-3</sup>	1.36	13.6	1	19.34x10 <sup>-3</sup>
p.s.i.	6894.76	6.89	6.89x10 <sup>-3</sup>	68.95x10 <sup>-3</sup>	68.95	70.31x10 <sup>-3</sup>	70.31	703.07	51.71	1


#### ■ Conversion table of major force unit conversion of international standard unit and metric system unit


Name	Internation unit → Metric system unit	Metric system unit → Internation unit
Air pressure	1 MPa = 10.2 kgf/cm <sup>2</sup>	1 kgf/cm <sup>2</sup> = 0.098 MPa
Load	1 N = 0.102 kgf	1 kgf = 9.8 N
Torque	1 N · m = 0.102 kgf · m	1 kgf · m = 9.8 N · m
Vacuum pressure	-1 kPa = 7.5 mmHg	-1 mmHg = 0.133 kPa
Inertia force	1 kg · m <sup>2</sup> = 10.2 kgf · cm · S	1 kgf · cm · S = 0.098 kg · m <sup>2</sup>




## Safety notice/common caution (1)

Please read this safety notice carefully, pay attention to safety item while using this product, in order to prevent injury to human body and damage of property; thus, there are divided into three classes of "Danger", "Warning", and "Caution" according to the extend of prevention.

 <b>Danger</b>	Obviously situated at "Danger" state, may cause casualty if not avoided; take special safety protection and management to prevent the occurrence of "Danger"
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 <b>Warning</b>	Condition of operation is situated at "Danger" state, may cause casualty if not avoided; take special safety protection and management to prevent the occurrence of "Danger"
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 <b>Caution</b>	Condition of operation is situated at "Danger" state, may cause minor or moderate injury and damage of property if not avoided; take safety protection and management
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- For safety protection and prevention of accident, please understand the condition of application and know the design, installation, procedure of usage and essential safety condition before using this product.
- Please use within the specification and requirement of this product; application beyond the specification may cause hazard. In case of special condition of application, take the confirmation of safety into account and then use it; in case of doubt in reading this information and related data, contact us before using.
- It is hazardous in error assemble and operation of compressed air and its accessories; so, while selecting the product, the related personnel of design, assemble, operating and service should possess sufficient knowledge and experience, and follow normal operating procedure, in order to maintain safe operation and good effect.
- The safety notice is made according to ISO 4414; pneumatic fluid power and JSI B 8370 general requirement of air system.


※ The safety notice , if change anything , excuse we don't notify.

## Safety notice/common caution (2)

This product suitable for application in general industrial equipment; adhere to the following caution while designing, assembling, using and maintenance.

-  **Danger**
1. Please never use in following application
    - Use in operation, delivering and management of the appliance for the purpose of human life and body.
    - Use in operation which rise obvious "Danger" and safety concern to human life and body.
    - Special for safety purpose, situation with impact of safety to human life and body.
  2. Confirmation of safety shall avoid the following conditions which cause safety impact to human and damage of equipment.
    - Operation of machine , device should note to the drop of driven object or race at the rotation radius and operation range cause injury of human and damage of equipment.
    - Operation of machine, device should note the air supply source and poor power supply and interruption and cause injury of human and damage of equipment.
    - When restarting the machine, device may cause object flying out and cause injury of human and damage of equipment.

-  **Warning**
1. Please never use in following situation
    - In outdoor dusty condition.
    - Avoid chemical, corrosive and inflammable gas; avoid sea water, high temperature place in surrounding.
    - Exceed the condition in the specification of the product.
    - In the place tend to receive rigorous shock impact, which affect the quality and stability of the product.
  2. Please don't make any modification or disassemble to the structure, function of the produc.
  3. Shut offthe power switch and air source properly before service and maintenance , avoid consequent hazard and damage of product.
  4. Avoid consequent hazard and damage of product while assembling and operation.

-  **Caution**
1. Pay attention to the cleanliness of the pipeline while laying the pipe, avoid dust, dirt and leak proof tape been sucked into the pipeline, affect the operation performance of the product.
  2. There are itemized cautions for various product, please contact our sale personnel if any doubt arouse.



**F.R.L. COMBINATION**

**NC**



Model	Equipment Model			Port Size Rc (PT)	Flow Rate L/min (ANR)	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Remarks
	Filter	Regulator	Lubricator				
NC-100	-M5	NF-100	NR-100	NL-100	M5	900	-H : Manual drainer (Standard type)
	-01				1/8"	900	
NC-200	-01	NF-200	NR-200	NL-200	1/8"	1000	-H : Manual drainer (Standard type)
	-02				1/4"	1000	
NC-300	-02	NF-300	NR-300	NL-300	1/4"	1300	-H-F1:Manual drainer With fitting (Option)
	-03				3/8"	1300	
NC-400	-02	NF-400	NR-400	NL-400	1/4"	2200	-S : Semi-Auto drainer Differential perssure drain (Option)
	-03				3/8"	2200	
NC-450	-04	NF-450	NR-450	NL-450	1/2"	2800	-S-F2:Semi-Auto drainer Differential perssure drain With fitting (Option)
	-06				3/4"	2800	
NC-500	-06	NF-500	NR-500	NL-500	3/4"	5300	-A : Auto drainer
	-10				1"	5300	

**F.R.L. COMBINATION**

**NFC**



Model	Equipment Model			Port Size Rc (PT)	Flow Rate L/min (ANR)	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Remarks
	Filter	Regulator	Lubricator				
NFC-100	-M5	NFR-100	NL-100	M5	800	-H : Manual drainer (Standard type)	
	-01			1/8"	800		
NFC-200	-01	NFR-200	NL-200	1/8"	1000	-H : Manual drainer (Standard type)	
	-02			1/4"	1000		
NFC-300	-02	NFR-300	NL-300	1/4"	1300	-H-F1:Manual drainer With fitting (Option)	
	-03			3/8"	1300		
NFC-400	-02	NFR-400	NL-400	1/4"	2200	-S : Semi-Auto drainer Differential perssure drain (Option)	
	-03			3/8"	2200		
NFC-450	-04	NFR-450	NL-450	1/2"	3000	-S-F2:Semi-Auto drainer Differential perssure drain With fitting (Option)	
	-06			3/4"	3000		
NFC-500	-06	NFR-500	NL-500	3/4"	5300	-A : Auto drainer	
	-10			1"	5300		

**FILTER REGULATOR**

**NFR**



Model	Port Size Rc (PT)	Flow Rate L/min (ANR)	Filter Grade	Gauge Rc (PT)	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Remarks
NFR-100	-M5	M5	5µm	Gircle Gauge PG-05	0.5 ~ 8.5 (50 ~ 850)	-H : Manual drainer (Standard type)
	-01	1/8"				
NFR-200	-01	1/8"	5µm	Square pressure gauge PG-22N	0.5 ~ 8.5 (50 ~ 850)	-H : Manual drainer (Standard type)
	-02	1/4"				
NFR-300	-02	1/4"	5µm	Square pressure gauge PG-22N	0.5 ~ 8.5 (50 ~ 850)	-H-F1:Manual drainer With fitting (Option)
	-03	3/8"				
NFR-400	-02	1/4"	5µm	Square pressure gauge PG-22N	0.5 ~ 8.5 (50 ~ 850)	-S : Semi-Auto drainer Differential perssure drain (Option)
	-03	3/8"				
NFR-450	-04	1/2"	5µm	Square pressure gauge PG-22N	0.5 ~ 8.5 (50 ~ 850)	-S-F2:Semi-Auto drainer Differential perssure drain With fitting (Option)
	-06	3/4"				
NFR-500	-06	3/4"	5µm	Square pressure gauge PG-22N	0.5 ~ 8.5 (50 ~ 850)	-A : Auto drainer
	-10	1"				

**MIST SEPARATOR REGULATOR**

**MFR**



Model	Port Size Rc (PT)	Flow Rate L/min (ANR)	Filter Grade	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Remarks
MFR-200	-01	1/8"	Filtration efficiency 0.3µm	0.5 ~ 8.5 (50 ~ 850)	-H : Manual drainer (Standard type)
	-02	1/4"			
MFR-300	-02	1/4"	Filtration efficiency 0.3µm	0.5 ~ 8.5 (50 ~ 850)	-H-F1:Manual drainer With fitting (Option)
	-03	3/8"			
MFR-400	-02	1/4"	Filtration efficiency 0.3µm	0.5 ~ 8.5 (50 ~ 850)	-S : Semi-Auto drainer Differential perssure drain (Option)
	-03	3/8"			
MFR-450	-04	1/2"	Filtration efficiency 0.3µm	0.5 ~ 8.5 (50 ~ 850)	-S-F2:Semi-Auto drainer Differential perssure drain With fitting (Option)
	-06	3/4"			
MFR-500	-06	3/4"	Filtration efficiency 0.3µm	0.5 ~ 8.5 (50 ~ 850)	-A : Auto drainer
	-10	1"			

**MICRO MIST SEPARATOR REGULATOR**

**MFRD**



Model	Port Size Rc (PT)	Flow Rate L/min (ANR)	Filter Grade	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Remarks
MFRD-200	-01	1/8"	Filtration efficiency 0.01µm	0.5 ~ 8.5 (50 ~ 850)	-H : Manual drainer (Standard type)
	-02	1/4"			
MFRD-300	-02	1/4"	Filtration efficiency 0.01µm	0.5 ~ 8.5 (50 ~ 850)	-H-F1:Manual drainer With fitting (Option)
	-03	3/8"			
MFRD-400	-02	1/4"	Filtration efficiency 0.01µm	0.5 ~ 8.5 (50 ~ 850)	-S : Semi-Auto drainer Differential perssure drain (Option)
	-03	3/8"			
MFRD-450	-04	1/2"	Filtration efficiency 0.01µm	0.5 ~ 8.5 (50 ~ 850)	-S-F2:Semi-Auto drainer Differential perssure drain With fitting (Option)
	-06	3/4"			
MFRD-500	-06	3/4"	Filtration efficiency 0.01µm	0.5 ~ 8.5 (50 ~ 850)	-A : Auto drainer
	-10	1"			

**AIR FILTER**

**NF**



Model	Port Size Rc (PT)	Flow Rate L/min (ANR)	Filter Grade	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Remarks
NF-100	-M5	M5	5µm	0.5 ~ 8.5 (50 ~ 850)	-H : Manual drainer (Standard type)
	-01	1/8"			
NF-200	-01	1/8"	5µm	0.5 ~ 8.5 (50 ~ 850)	-H : Manual drainer (Standard type)
	-02	1/4"			
NF-300	-02	1/4"	5µm	0.5 ~ 8.5 (50 ~ 850)	-H-F1:Manual drainer With fitting (Option)
	-03	3/8"			
NF-400	-02	1/4"	5µm	0.5 ~ 8.5 (50 ~ 850)	-S : Semi-Auto drainer Differential perssure drain (Option)
	-03	3/8"			
NF-450	-04	1/2"	5µm	0.5 ~ 8.5 (50 ~ 850)	-S-F2:Semi-Auto drainer Differential perssure drain With fitting (Option)
	-06	3/4"			
NF-500	-06	3/4"	5µm	0.5 ~ 8.5 (50 ~ 850)	-A : Auto drainer
	-10	1"			

**MIST SEPARATOR**

**MF**



Model	Port Size Rc (PT)	Flow Rate L/min (ANR)	Filter Grade	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Remarks
MF-200	-01	1/8"	Filtration efficiency 0.3 µm	0.5 ~ 8.5 (50 ~ 850)	-H : Manual drainer (Standard type)
	-02	1/4"			
MF-300	-02	1/4"	Filtration efficiency 0.3 µm	0.5 ~ 8.5 (50 ~ 850)	-H-F1:Manual drainer With fitting (Option)
	-03	3/8"			
MF-400	-02	1/4"	Filtration efficiency 0.3 µm	0.5 ~ 8.5 (50 ~ 850)	-S : Semi-Auto drainer Differential perssure drain (Option)
	-03	3/8"			
MF-450	-04	1/2"	Filtration efficiency 0.3 µm	0.5 ~ 8.5 (50 ~ 850)	-S-F2:Semi-Auto drainer Differential perssure drain With fitting (Option)
	-06	3/4"			
MF-500	-06	3/4"	Filtration efficiency 0.3 µm	0.5 ~ 8.5 (50 ~ 850)	-A : Auto drainer
	-10	1"			

**MICRO MIST SEPARATOR**

**MFD**



Model	Port Size Rc (PT)	Flow Rate L/min (ANR)	Filter Grade	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Remarks
MFD-200	-01	1/8"	Filtration efficiency 0.01µm	0.5 ~ 8.5 (50 ~ 850)	-H : Manual drainer (Standard type)
	-02	1/4"			
MFD-300	-02	1/4"	Filtration efficiency 0.01µm	0.5 ~ 8.5 (50 ~ 850)	-H-F1:Manual drainer With fitting (Option)
	-03	3/8"			
MFD-400	-02	1/4"	Filtration efficiency 0.01µm	0.5 ~ 8.5 (50 ~ 850)	-S : Semi-Auto drainer Differential perssure drain (Option)
	-03	3/8"			
MFD-450	-04	1/2"	Filtration efficiency 0.01µm	0.5 ~ 8.5 (50 ~ 850)	-S-F2:Semi-Auto drainer Differential perssure drain With fitting (Option)
	-06	3/4"			
MFD-500	-06	3/4"	Filtration efficiency 0.01µm	0.5 ~ 8.5 (50 ~ 850)	-A : Auto drainer
	-10	1"			



**REGULATOR**

**NR**



Model	Port Size Rc (PT)	Flow Rate L/min (ANR)	Gauge Rc (PT)	Pressure Range Kg/cm <sup>2</sup> (Kpa)	Remarks
NR-100	-M5	M5		0.5 ~ 8.5 (50 ~ 850)	—
	-01	1/8"			
NR-200	-01	1/8"		Standard: 0.5 ~ 8.5 (50 ~ 850)	-L1:Low Pressure 1 Kg/cm <sup>2</sup> -L2:Low Pressure 2 Kg/cm <sup>2</sup> -L4:Low Pressure 4 Kg/cm <sup>2</sup>
	-02	1/4"		Low Pressure: 0.1 ~ 1 (10 ~ 100)	
NR-300	-02	1/4"		0.5 ~ 2 (50 ~ 200)	
	-03	3/8"		0.5 ~ 4 (50 ~ 400)	
NR-400	-02	1/4"		0.5 ~ 8.5 (50 ~ 850)	
	-03	3/8"			
NR-450	-04	1/2"			
	-06	3/4"			
NR-500	-06	3/4"			—
	-10	1"			

**LUBRICATOR**

**NL**



Model	Port Size Rc (PT)	Flow Rate L/min (ANR)	Oil Capacity L/min (ANR)	Oil Volume CC	Remarks	
NL-100	-M5	M5	850	0 ~ 25	20	Without bowl guard
	-01	1/8"	850			
NL-200	-01	1/8"	1000	0 ~ 30	25	Standard:Without bowl guard -BG: With bowl guard(Optional)
	-02	1/4"	1000			
NL-300	-02	1/4"	1100	0 ~ 40	90	Standard : With bowl guard
	-03	3/8"	1100			
NL-400	-02	1/4"	2200	0 ~ 40	90	
	-03	3/8"	2200			
NL-450	-04	1/2"	2800	0 ~ 45	160	
	-06	3/4"	2800			
NL-500	-06	3/4"	5200	0 ~ 45	160	
	-10	1"	5200			

**LARGE-SIZED FILTER**

**DM**



Model	Port Size Rc (PT)	Flow Rate L/min (ANR)	Pressure Range Kg/cm <sup>2</sup> (Kpa)	Remarks	
DM □ - 200	-02	1/4"	2000	0.5 ~ 10 (50 ~ 1000)	[W] : Water drop removal ratio 99% [F] : Main line filter 3µm [M] : Class 1 filter 0.3µm [D] : Class 2 filter 0.01µm
	-03	3/8"	2000		
DM □ - 300	-03	3/8"	3300		
	-04	1/2"	3600		
DM □ - 500	-06	3/4"	3600		
	-04	1/2"	6000		
DM □ - 800	-06	3/4"	6000		
	-10	1"	6000		
	-10	1"	12000		
	-12	1 1/2"	12000		

**AUTO DRAIN VALVE**

**NDV**



Model	Port Size Rc (PT)	Remarks
NDV-300	-02	1/4"
	-03	3/8"
	-04	1/2"
NDV-500	-04	1/2"
	-06	3/4"

-H : Manual drainer (Standard type)  
-H-F1 : Manual drainer With fitting (Option)  
-A : Auto drainer

**NPR-100 series MINI REGULATOR**

**NPR**



Model	Port Size Rc (PT)	Flow Rate L/min (ANR)	Pressure Range Kg/cm <sup>2</sup> (Kpa)
NPR-100	04	Ø4	140
	06	Ø6	160

1 ~ 7

**NPR-200 / NPR-300 series MINI REGULATOR**

**NPR**



Model	Port Size Rc (PT)	Flow Rate L/min (ANR)	Gauge Rc (PT)	Pressure Range Kg/cm <sup>2</sup> (Kpa)
NPR-200	M5	M5	PG-01	2 ~ 7
NPR-300	01	01	PG-05	

**ERX series PRECISION REGULATOR ( Energy Saving - No Overflow )**

**ER**



Model	Port Size Rc (PT)	Max. Pressure Mpa (Kg/cm <sup>2</sup> )	Min. Pressure Mpa (Kg/cm <sup>2</sup> )	Pressure Range Mpa (Kg/cm <sup>2</sup> )	Gauge
ERX-200	1/8"	Max. 1.0 Mpa (10.2)	Set Pressure + 0.05 Mpa (0.5)	0.01 ~ 0.8 Mpa (0.1 ~ 8.2)	PG - 10A
ERX-200-L4	1/8"	Max. 1.0 Mpa (10.2)	Set Pressure + 0.05 Mpa (0.5)	0.01 ~ 0.4 Mpa (0.1 ~ 4.1)	PG - 10A
ERX-200-L2	1/8"	Max. 1.0 Mpa (10.2)	Set Pressure + 0.05 Mpa (0.5)	0.01 ~ 0.2 Mpa (0.1 ~ 2.0)	PG - 10A
ERX-300	1/4"	Max. 1.0 Mpa (10.2)	Set Pressure + 0.05 Mpa (0.5)	0.01 ~ 0.8 Mpa (0.1 ~ 8.2)	PG - 10A
ERX-300-L4	1/4"	Max. 1.0 Mpa (10.2)	Set Pressure + 0.05 Mpa (0.5)	0.01 ~ 0.4 Mpa (0.1 ~ 4.1)	PG - 10A
ERX-300-L2	1/4"	Max. 1.0 Mpa (10.2)	Set Pressure + 0.05 Mpa (0.5)	0.01 ~ 0.2 Mpa (0.1 ~ 2.0)	PG - 10A
ERX-400	1/4", 3/8", 1/2"	Max. 1.0 Mpa (10.2)	Set Pressure + 0.1 Mpa (1.0)	0.01 ~ 0.8 Mpa (0.1 ~ 8.2)	PG - 10A
ERX-400-L4	1/4", 3/8", 1/2"	Max. 1.0 Mpa (10.2)	Set Pressure + 0.1 Mpa (1.0)	0.01 ~ 0.4 Mpa (0.1 ~ 4.1)	PG - 10A
ERX-400-L2	1/4", 3/8", 1/2"	Max. 1.0 Mpa (10.2)	Set Pressure + 0.1 Mpa (1.0)	0.01 ~ 0.2 Mpa (0.1 ~ 2.0)	PG - 10A

**DIRECT OPERATED PRECISION REGULATOR**

**ERP**



Model	Port Size Rc (PT)	Max. Pressure Mpa (Kg/cm <sup>2</sup> )	Min. Pressure Mpa (Kg/cm <sup>2</sup> )	Pressure Range Mpa (Kg/cm <sup>2</sup> )	Gauge
ERP-200	1/8" · 1/4"	Max. 0.7 Mpa	Set Pressure + 0.05 Mpa (0.5)	0.01 ~ 0.6 Mpa (0.1 ~ 6.12)	PG - 10A
ERP-200-L4	1/8" · 1/4"	Max. 0.7 Mpa	Set Pressure + 0.05 Mpa (0.5)	0.01 ~ 0.4 Mpa (0.1 ~ 4.08)	PG - 05A
ERP-200-L2	1/8" · 1/4"	Max. 0.7 Mpa	Set Pressure + 0.05 Mpa (0.5)	0.01 ~ 0.2 Mpa (0.1 ~ 2.04)	PG - 05A
ERP-300	1/4" · 3/8"	Max. 0.7 Mpa	Set Pressure + 0.05 Mpa (0.5)	0.01 ~ 0.6 Mpa	PG - 10A
ERP-300-L4	1/4" · 3/8"	Max. 0.7 Mpa	Set Pressure + 0.05 Mpa (0.5)	0.01 ~ 0.4 Mpa	PG - 10A
ERP-300-L2	1/4" · 3/8"	Max. 0.7 Mpa	Set Pressure + 0.05 Mpa (0.5)	0.01 ~ 0.2 Mpa	PG - 10A

CHELIC products  
Related Calculation / Common Caution  
Air unit  
Valve  
Cylinder  
Gripper  
Vacuum Equipment  
Fitting  
Accessories  
Swivel unit  
Assembly pick and place robot



**CVTR series ELECTOR - PNEUMATIC REGULATOR**

**CVTR**



Model	Pressure Range Mpa	Port Size Rc (PT)	Thread Type	Voltage	Input Singal	Monitor Output
CVTR101	0.005~0.1MPa	1/8"	Rc NPT PF	DC24V	Current Type : DC4~20mA Voltage Type : DC0~5V DC0~10V	NPN Output PNP Output Analogue DC0.5~4.5V Analogue DC4~20mA
CVTR201	0.005~0.5MPa	1/4"				
CVTR301	0.005~0.9MPa	1/4"				
CVTR105	0.005~0.1MPa	1/4"				
CVTR205	0.005~0.5MPa	3/8"				
CVTR305	0.005~0.9MPa	3/8"				
CVTR109	0.005~0.1MPa	1/4"				
CVTR209	0.005~0.5MPa	3/8"				
CVTR309	0.005~0.9MPa	1/2"				

**FLOW SWITCH**

**FC**



Model	Flow Range	Voltage	Port Size	Output	Minimum Display Unit	
FCS-005	0.5L/min	DC-24V	Φ4 · Φ6 · Φ8	2 NPN Type 2 PNP Type Max. current : 50mA	1mL/min	
FCS-020	2L/min				0.01mL/min	
FCS-100	10L/min				0.1L/min	
FCS-200	20L/min				1L/min	
FCM-500	50L/min		Φ6 · Φ8		Rc1/2	
FCM-101	100L/min					
FCM-201	200L/min		Φ8 · Φ10			
FCH-501	500L/min					
FCH-102	1000L/min					

**EXHAUST VALVE**

**AFB**



Model	Port Size Rc (PT)	Flow Rate L/min (ANR)	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Remarks
AFB-150	1/8"	650	0.5 ~ 8.5 ( 50 ~ 850 )	-H : Manual exhaust cock (Standard type)
AFB-200	1/4"	750		

**F.R.L. COMBINATION**

**AC / BC / CC**



Model	Equipment Model			Port Size Rc (PT)	Max. Flow L/min (ANR)	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Remarks
	Filter	Regulator	Lubricator				
AC-150	AF-150	AR-150	AL-150	1/8"	650	0.5 ~ 8.5 ( 50 ~ 850 )	-H : Manual drainer -A : Auto drainer -BG : With bowl guard -LG-W : Side press drainer
AC-200	AF-200	AR-200	AL-200	1/4"	750		
BC-200	BF-200	BR-200	BL-200	1/4"	1000		
BC-300	BF-300	BR-300	BL-300	3/8"	1350		
CC-400	CF-400	CR-400	CL-400	1/2"	3000		
CC-600	CF-600	CR-600	CL-600	3/4"	3100		

**F.R.L. COMBINATION**

**AFC / BFC / CFC**



Model	Equipment Model			Port Size Rc (PT)	Max. Flow L/min (ANR)	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Remarks
	Filter	Regulator	Lubricator				
AFC-150	AFR-150	AL-150	AL-150	1/8"	650	0.5 ~ 8.5 ( 50 ~ 850 )	-H : Manual drainer -A : Auto drainer -BG : With bowl guard -LG-W : Side press drainer
AFC-200	AFR-200	AL-200	AL-200	1/4"	750		
BFC-200	BFR-200	BL-200	BL-200	1/4"	1000		
BFC-300	BFR-300	BL-300	BL-300	3/8"	1350		
CFC-400	CFR-400	CL-400	CL-400	1/2"	3000		
CFC-600	CFR-600	CL-600	CL-600	3/4"	3100		

**FILTER REGULATOR**

**AFR / BFR / CFR**



Model	Port Size Rc (PT)	Max. Flow L/min (ANR)	Fliter Grade	Gauge Connection Rc (PT)	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Remarks
AFR-150	1/8"	650	5μm	1/8"	0.5 ~ 8.5 ( 50 ~ 850 )	-H : Manual drainer -A : Auto drainer -BG : With bowl guard -LG-W : Side press drainer
AFR-200	1/4"	750				
BFR-200	1/4"	1000				
BFR-300	3/8"	1350				
CFR-400	1/2"	3000				
CFR-600	3/4"	3100				

**AIR FILTER**

**AF / BF / CF**



Model	Port Size Rc (PT)	Max. Flow L/min (ANR)	Fliter Grade	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Remarks
AF-150	1/8"	650	5μm	0.5 ~ 8.5 ( 50 ~ 850 )	-H : Manual drainer -A : Auto drainer -BG : With bowl guard -LG-W : Side press drainer
AF-200	1/4"	750			
BF-200	1/4"	1000			
BF-300	3/8"	1350			
CF-400	1/2"	3000			
CF-600	3/4"	3100			



**REGULATOR**

**AR / BR / CR**



Model	Port Size Rc (PT)	Max. Flow L/min (ANR)	Gauge Connection Rc (PT)	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Remarks
AR-150-D1	1/8"	600	1/8"	0.1 ~ 1 ( 10 ~ 100 )	For HVLP Air Gun
AR-150	1/8"	650		Standard : 0.5 ~ 8.5 ( 50 ~ 850 )	-L1:Low Pressure 1 Kgf/cm <sup>2</sup> -L2:Low Pressure 2 Kgf/cm <sup>2</sup> -L4:Low Pressure 4 Kgf/cm <sup>2</sup>
AR-200	1/4"	750	1/4"		Low Pressure: 0.1 ~ 1 ( 10 ~ 100 ) 0.5 ~ 4 ( 50 ~ 400 )
BR-200	1/4"	1000			
BR-300	3/8"	1350			
CR-400	1/2"	3000		0.5 ~ 8.5 ( 50 ~ 850 )	—
CR-600	3/4"	3100			

**LUBRICATOR**

**AL / BL / CL**



Model	Port Size Rc (PT)	Max. Flow L/min (ANR)	Oil Capacity L/min (ANR)	Oil Volume CC	Remarks
AL-150	1/8"	650	0 ~ 30	25	Standard : Without Bowl Guard -BG : With bowl guard (Option)
AL-200	1/4"	750			
BL-200	1/4"	1000	0 ~ 40	90	Standard : With Bowl Guard
BL-300	3/8"	1350			
CL-400	1/2"	3000			
CL-600	3/4"	3100	0 ~ 45	160	

**F.R.L. COMBINATION (All Plastic)**

**PFC / PF / PFR / PL**



Model	Description	Port Size Rc (PT)	Max. Flow L/min (ANR)	Remarks
PFC-200	FR.L. Unit	1/4"	800	Filter Grade : 5µm Pressure Range : 0.5~8.5 Kgf/cm <sup>2</sup> Drain Cock : Semi-Auto Drainer  Drip flow Volume : 0~80 drips/min Oil Store Capacity : 30 cc
PF-200	Filter			
PFR-200	Filter Regulator			
PL-200	Lubricator			

**PRESSURE GAUGE**

**PG**



Model	Connection	Port Size Rc (PT)	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Remarks
PG-05	Center Back type	1/8" (M5x0.8)	0.5 ~ 10 ( 50 ~ 1000 )	Standard Type
PG-10	Center Back type	1/8"		Standard Type
PG-10-S	Bottom type	1/8"		—
PG-10-L	Center Back type (Low Pressure Gauge)	1/8" (M5x0.8)	0.5 ~ 4 ( 50 ~ 400 ) 0.1 ~ 1 ( 10 ~ 100 )	1 , 2 , 4 ( Kgf/cm <sup>2</sup> )
PG-20	Center Back type	1/4" (M5x0.8)	0.5 ~ 10 ( 50 ~ 1000 )	Standard Type
PG-20-S	Bottom type			—
PG-20-F	Flange type			Fixture Type

A large grid area for taking notes or calculations, spanning most of the right page.

- CHELIC Products
- Related Calculation / Common Caution
- Air unit
- Valve
- Cylinder
- Gripper
- Vacuum Equipment
- Fitting
- Accessories
- Swivel unit
- Assembly pick and place robot



SM series SOLENOID VALVE

SM



Model	Port Size Rc (PT)	Coil type	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kg/cm <sup>2</sup> (Kpa)	Voltage
SM-5101	1/8"	Single	5 Ports 2 Positions	9 (0.5)	1.5 ~ 7 ( 150 ~ 700 )	DC 12V DC 24V AC 110V AC 220V
SM-7101	1/8"			16.2 (0.9)		
SM-7102	1/4"			16.2 (0.9)		
SM-9102	1/4"			30.6 (1.7)		
SM-9103	3/8"			30.6 (1.7)		
SM-5201	1/8"	Double	5 Ports 2 Positions	9 (0.5)	1.5 ~ 7 ( 150 ~ 700 )	
SM-7201	1/8"			16.2 (0.9)		
SM-7202	1/4"			16.2 (0.9)		
SM-9202	1/4"			30.6 (1.7)		
SM-9203	3/8"			30.6 (1.7)		
SM-5(3)01	1/8"	Double	5 Ports 3 Positions	9 (0.5)	2 ~ 7 ( 200 ~ 700 )	
SM-7(3)01	1/8"			16.2 (0.9)		
SM-7(3)02	1/4"			16.2 (0.9)		
SM-9(3)02	1/4"			30.6 (1.7)		
SM-9(3)03	3/8"			30.6 (1.7)		

Note : 5 Ports 3 Positions (3) Normally close (4) Normally free (5) Normally open.

SM series SOLENOID VALVE ( One-Touch Fitting Type )

SM



Model	Port Size Rc (PT)	Coil type	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kg/cm <sup>2</sup> (Kpa)	Voltage
SM-5100-C4	Ø4	Single	5 Ports 2 Positions	9 (0.67)	1.5 ~ 7 ( 150 ~ 700 )	DC 12V DC 24V AC 110V AC 220V
SM-5100-C6	Ø6			9 (0.67)		
SM-5100-C8	Ø8			9 (0.67)		
SM-7100-C6	Ø6			16.2 (0.9)		
SM-7100-C8	Ø8			16.2 (0.9)		
SM-7100-C10	Ø10			16.2 (0.9)		
SM-9100-C8	Ø8			30.6 (1.7)		
SM-9100-C10	Ø10			30.6 (1.7)		
SM-9100-C12	Ø12			30.6 (1.7)		
SM-5200-C4	Ø4			Double		
SM-5200-C6	Ø6	9 (0.67)				
SM-5200-C8	Ø8	9 (0.67)				
SM-7200-C6	Ø6	16.2 (0.9)				
SM-7200-C8	Ø8	16.2 (0.9)				
SM-7200-C10	Ø10	16.2 (0.9)				
SM-9200-C8	Ø8	30.6 (1.7)				
SM-9200-C10	Ø10	30.6 (1.7)				
SM-9200-C12	Ø12	30.6 (1.7)				
SM-5(3)00-C4	Ø4	Double	5 Ports 3 Positions		9 (0.67)	
SM-5(3)00-C6	Ø6			9 (0.67)		
SM-5(3)00-C8	Ø8			9 (0.67)		
SM-7(3)00-C6	Ø6			16.2 (0.9)		
SM-7(3)00-C8	Ø8			16.2 (0.9)		
SM-7(3)00-C10	Ø10			16.2 (0.9)		
SM-9(3)00-C8	Ø8			30.6 (1.7)		
SM-9(3)00-C10	Ø10			30.6 (1.7)		
SM-9(3)00-C12	Ø12			30.6 (1.7)		

Note : 5 Ports 3 Positions (3) Normally close (4) Normally free (5) Normally open.

SMB series SOLENOID VALVE ( Base Mounting Type )

SMB



Model	Port Size Rc (PT)	Coil type	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kg/cm <sup>2</sup> (Kpa)	Voltage
SMB-5101	1/8"	Single	5 Ports 2 Positions	10.8 (0.6)	1.5 ~ 7 ( 150 ~ 700 )	DC 12V DC 24V AC 110V AC 220V
SMB-7102	1/4"			18.2 (1.0)		
SMB-9103	3/8"			36 (2.0)		
SMB-5201	1/8"	Double	5 Ports 2 Positions	10.8 (0.6)	1.5 ~ 7 ( 150 ~ 700 )	
SMB-7202	1/4"			18.2 (1.0)		
SMB-9203	3/8"			36 (2.0)		
SMB-5(3)01	1/8"	Double	5 Ports 3 Positions	10.8 (0.6)	2 ~ 7 ( 200 ~ 700 )	
SMB-7(3)02	1/4"			18.2 (1.0)		
SMB-9(3)03	3/8"			36 (2.0)		

Note : 5 Ports 3 Positions (3) Normally close (4) Normally free (5) Normally open.

SMB series SOLENOID VALVE ( Base Mounting type with One-Touch Fitting )

SMB



Model	Port Size Rc (PT)	Coil type	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kg/cm <sup>2</sup> (Kpa)	Voltage
SMB-5100-C4	Ø4	Single	5 Ports 2 Positions	9 (0.67)	1.5 ~ 7 ( 150 ~ 700 )	DC 12V DC 24V AC 110V AC 220V
SMB-5100-C6	Ø6			9 (0.67)		
SMB-5100-C8	Ø8			9 (0.67)		
SMB-7100-C6	Ø6			16.2 (0.9)		
SMB-7100-C8	Ø8			16.2 (0.9)		
SMB-7100-C10	Ø10			16.2 (0.9)		
SMB-5200-C4	Ø4	Double	5 Ports 2 Positions	9 (0.67)	1.5 ~ 7 ( 150 ~ 700 )	
SMB-5200-C6	Ø6			9 (0.67)		
SMB-5200-C8	Ø8			9 (0.67)		
SMB-7200-C6	Ø6			16.2 (0.9)		
SMB-7200-C8	Ø8			16.2 (0.9)		
SMB-7200-C10	Ø10			16.2 (0.9)		
SMB-5(3)00-C4	Ø4	Double	5 Ports 3 Positions	9 (0.67)	2 ~ 7 ( 200 ~ 700 )	
SMB-5(3)00-C6	Ø6			9 (0.67)		
SMB-5(3)00-C8	Ø8			9 (0.67)		
SMB-7(3)00-C6	Ø6			16.2 (0.9)		
SMB-7(3)00-C8	Ø8			16.2 (0.9)		
SMB-7(3)00-C10	Ø10			16.2 (0.9)		

SMU series 3 PORTS SOLENOID VALVE

SMU



Model	Port Size Rc (PT)	Coil type	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kg/cm <sup>2</sup> (Kpa)	Voltage
SMU-510M5	M5	Single	3 Ports 2 Positions	2.16 (0.12)	1.5 ~ 7 ( 150 ~ 700 )	DC 12V DC 24V AC 110V AC 220V
SMU-7101	1/8"			12.6 (0.7)		

SMUB series 3 PORTS SOLENOID VALVE ( Base Mounting Type )

SMUB



Model	Port Size Rc (PT)	Coil type	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kg/cm <sup>2</sup> (Kpa)	Voltage
SMUB-510M5	M5	Single	3 Ports 2 Positions	3.06 (0.17)	1.5 ~ 7 ( 150 ~ 700 )	DC 12V DC 24V AC 110V AC 220V
SMUB-5101	1/8"			3.06 (0.17)		
SMUB-7101	1/8"			11.7 (0.65)		
SMUB-7102	1/4"			11.7 (0.65)		



SR series SOLENOID VALVE

SR



Model	Port Size Rc (PT)	Coil type	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kg/cm <sup>2</sup> (Kpa)	Voltage
SR-310M5	M5	Single	5 Ports 2 Positions	3.6 (0.2)	1.5 ~ 7 ( 150 ~ 700 )	DC 12V DC 24V
SR-5101	1/8"			9 (0.5)		
SR-7101	1/8"			16.2 (0.9)		
SR-7102	1/4"			16.2 (0.9)		
SR-9102	1/4"			30.6 (1.7)		
SR-9103	3/8"			30.6 (1.7)		
SR-320M5	M5	Double	5 Ports 2 Positions	3.6 (0.2)	1.5 ~ 7 ( 150 ~ 700 )	
SR-5201	1/8"			9 (0.5)		
SR-7201	1/8"			16.2 (0.9)		
SR-7202	1/4"			16.2 (0.9)		
SR-9202	1/4"			30.6 (1.7)		
SR-9203	3/8"			30.6 (1.7)		
SR-3(3)M5	M5	Double	5 Ports 3 Positions	3.6 (0.2)	2 ~ 7 ( 200 ~ 700 )	
SR-5(3)01	1/8"			9 (0.5)		
SR-7(3)01	1/8"			16.2 (0.9)		
SR-7(3)02	1/4"			16.2 (0.9)		
SR-9(3)02	1/4"			30.6 (1.7)		
SR-9(3)03	3/8"			30.6 (1.7)		

Note : 5 Ports 3 Positions (3) Normally close (4) Normally free (5) Normally open.

SR series SOLENOID VALVE ( One-Touch Fitting Type )

SR



Model	Port Size Rc (PT)	Coil type	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kg/cm <sup>2</sup> (Kpa)	Voltage
SR-3100-C4	Ø4	Single	5 Ports 2 Positions	3.6 (0.2)	1.5 ~ 7 ( 150 ~ 700 )	DC 12V DC 24V
SR-5100-C4	Ø4			9 (0.67)		
SR-5100-C6	Ø6			9 (0.67)		
SR-5100-C8	Ø8			9 (0.67)		
SR-7100-C6	Ø6			16.2 (0.9)		
SR-7100-C8	Ø8			16.2 (0.9)		
SR-7100-C10	Ø10			16.2 (0.9)		
SR-9100-C8	Ø8			30.6 (1.7)		
SR-9100-C10	Ø10			30.6 (1.7)		
SR-9100-C12	Ø12			30.6 (1.7)		
SR-5200-C4	Ø4	Double	5 Ports 2 Positions	9 (0.67)	1.5 ~ 7 ( 150 ~ 700 )	
SR-5200-C6	Ø6			9 (0.67)		
SR-5200-C8	Ø8			9 (0.67)		
SR-7200-C6	Ø6			16.2 (0.9)		
SR-7200-C8	Ø8			16.2 (0.9)		
SR-7200-C10	Ø10			16.2 (0.9)		
SR-9200-C8	Ø8			30.6 (1.7)		
SR-9200-C10	Ø10			30.6 (1.7)		
SR-9200-C12	Ø12			30.6 (1.7)		
SR-5(3)00-C4	Ø4			Double		
SR-5(3)00-C6	Ø6	9 (0.67)				
SR-5(3)00-C8	Ø8	9 (0.67)				
SR-7(3)00-C6	Ø6	16.2 (0.9)				
SR-7(3)00-C8	Ø8	16.2 (0.9)				
SR-7(3)00-C10	Ø10	16.2 (0.9)				
SR-9(3)00-C8	Ø8	30.6 (1.7)				
SR-9(3)00-C10	Ø10	30.6 (1.7)				
SR-9(3)00-C12	Ø12	30.6 (1.7)				

Note : 5 Ports 3 Positions (3) Normally close (4) Normally free (5) Normally open.

SRB series SOLENOID VALVE ( Base Mounting Type )

SRB

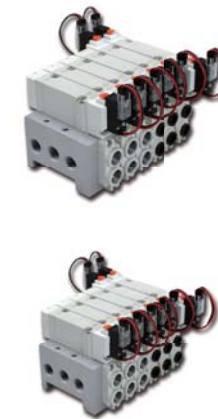


Model	Port Size Rc (PT)	Coil type	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kg/cm <sup>2</sup> (Kpa)	Voltage
SRB-310M5	M5	Single	5 Ports 2 Positions	3.6 (0.2)	1.5 ~ 7 ( 150 ~ 700 )	DC 12V DC 24V
SRB-5101	1/8"			10.8 (0.6)		
SRB-7102	1/4"			18.2 (1.0)		
SRB-9103	3/8"			36 (2.0)		
SRB-320M5	M5	Double	5 Ports 2 Positions	3.6 (0.2)	1.5 ~ 7 ( 150 ~ 700 )	
SRB-5201	1/8"			10.8 (0.6)		
SRB-7202	1/4"			18.2 (1.0)		
SRB-9203	3/8"			36 (2.0)		
SRB-3(3)M5	M5	Double	5 Ports 3 Positions	3.6 (0.2)	2 ~ 7 ( 200 ~ 700 )	
SRB-5(3)01	1/8"			10.8 (0.6)		
SRB-7(3)02	1/4"			18.2 (1.0)		
SRB-9(3)03	3/8"			36 (2.0)		

Note : 5 Ports 3 Positions (3) : Normally close (4) : Normally free (5) : Normally open.

SRB series SOLENOID VALVE ( Base Mounting type with One-Touch Fitting )

SRB



Model	Port Size Rc (PT)	Coil type	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kg/cm <sup>2</sup> (Kpa)	Voltage
SRB-5100-C4	Ø4	Single	5 Ports 2 Positions	9 (0.67)	1.5 ~ 7 ( 150 ~ 700 )	DC 12V DC 24V
SRB-5100-C6	Ø6			9 (0.67)		
SRB-5100-C8	Ø8			9 (0.67)		
SRB-7100-C6	Ø6			16.2 (0.9)		
SRB-7100-C8	Ø8			16.2 (0.9)		
SRB-7100-C10	Ø10	16.2 (0.9)				
SRB-5200-C4	Ø4	Double	5 Ports 2 Positions	9 (0.67)	1.5 ~ 7 ( 150 ~ 700 )	
SRB-5200-C6	Ø6			9 (0.67)		
SRB-5200-C8	Ø8			9 (0.67)		
SRB-7200-C6	Ø6			16.2 (0.9)		
SRB-7200-C8	Ø8			16.2 (0.9)		
SRB-7200-C10	Ø10	16.2 (0.9)				
SRB-5(3)00-C4	Ø4	Double	5 Ports 3 Positions	9 (0.67)	2 ~ 7 ( 200 ~ 700 )	
SRB-5(3)00-C6	Ø6			9 (0.67)		
SRB-5(3)00-C8	Ø8			9 (0.67)		
SRB-7(3)00-C6	Ø6			16.2 (0.9)		
SRB-7(3)00-C8	Ø8			16.2 (0.9)		
SRB-7(3)00-C10	Ø10	16.2 (0.9)				

Note : 5 Ports 3 Positions (3) : Normally close (4) : Normally free (5) : Normally open.

SRU series 3 PORTS SOLENOID VALVE

SRU



Model	Port Size Rc (PT)	Coil type	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kg/cm <sup>2</sup> (Kpa)	Voltage
SRU-510M5	M5	Single	3 Ports	2.16 (0.12)	1.5 ~ 7 ( 150 ~ 700 )	DC 12V DC 24V
SRU-7101	1/8"		2 Positions	12.6 (0.7)		

SRUB series 3 PORTS SOLENOID VALVE ( Base Mounting Type )

SRUB



Model	Port Size Rc (PT)	Coil type	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kg/cm <sup>2</sup> (Kpa)	Voltage
SRUB-5101	M5, 1/8"	Single	3 Ports	3.06 (0.17)	1.5 ~ 7 ( 150 ~ 700 )	DC 12V DC 24V
SRUB-7102	1/8", 1/4"		2 Positions	11.7 (0.65)		



SF500 series DIN RAIL CASSETTE TYPE SOLENOID VALVE **SF500**



Model	Port Size Rc (PT)	Port Size Rc (PT)	Coil type	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kg/cm <sup>2</sup> (Kpa)	Voltage
SF-310M5	M5	Ø8	Single	5 Ports 2 Positions	3.6 (0.2)	1.5 ~ 7 (150 ~ 700)	DC 12V DC 24V
SF-320M5				5 Ports 2 Positions			
SF-3(3)0M5				5 Ports 3 Positions			
SF-5101	1/8"	Ø8 · Ø10	Single	5 Ports 2 Positions	9 (0.5)	1.5 ~ 7 (150 ~ 700)	
SF-5201				5 Ports 2 Positions			
SF-5(3)01				5 Ports 3 Positions			

Note : 5 Ports 3 Positions (3) Normally close (4) Normally free (5) Normally open.

SF500 series DIN RAIL CASSETTE TYPE SOLENOID VALVE **SF500**  
( One-Touch Fitting Type )



Model	Port Size Rc (PT)	Port Size Rc (PT)	Coil type	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kg/cm <sup>2</sup> (Kpa)	Voltage
SF-3100-C4	Ø4	Ø8	Single	5 Ports 2 Positions	3.6 (0.2)	1.5 ~ 7 (150 ~ 700)	DC 12V DC 24V
SF-3200-C4				5 Ports 2 Positions			
SF-3(3)00-C4				5 Ports 3 Positions			
SF-5100-C4	Ø4	Ø8 · Ø10	Single	5 Ports 2 Positions	9 (0.5)		
SF-5100-C6				Ø6			
SF-5100-C8				Ø8			
SF-5200-C4	Ø4		Ø8 · Ø10	Double	5 Ports 2 Positions	9 (0.5)	
SF-5200-C6					Ø6		
SF-5200-C8					Ø8		
SF-5(3)00-C4	Ø4	Ø8 · Ø10	Double	5 Ports 3 Positions	9 (0.5)		
SF-5(3)00-C6				Ø6			
SF-5(3)00-C8				Ø8			

Note : 5 Ports 3 Positions (3) Normally close (4) Normally free (5) Normally open.

ST2 series SOLENOID VALVE **ST2**



Model	Port Size Rc (PT)	Coil type	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kg/cm <sup>2</sup> (Kpa)	Voltage	
ST2-5101	1/8"	Single	5 Ports 2 Positions	12 (0.67)	1.5 ~ 7 (150 ~ 700)	DC 12V DC 24V AC 110V AC 220V	
ST2-5201	1/8"			12 (0.67)			
ST2-5231	1/8"			5 Ports 3 Positions			12 (0.67)
ST2-6101	1/8"	Single	5 Ports 2 Positions	14 (0.78)			1.5 ~ 7 (150 ~ 700)
ST2-6102	1/4"			14 (0.78)			
ST2-6201	1/8"			14 (0.78)			
ST2-6202	1/4"	Double	5 Ports 2 Positions	14 (0.78)	1.5 ~ 7 (150 ~ 700)		
ST2-6232	1/4"			5 Ports 3 Positions		14 (0.78)	

SRK series SOLENOID VALVE **SRK**



Model	Port Size Rc (PT)	Coil type	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kg/cm <sup>2</sup> (Kpa)	Voltage
SRK-510M5	M5	Single	5 Ports 2 Positions	9 (0.5)	1.5 ~ 7 (150 ~ 700)	DC 12V DC 24V
SRK-7101	1/8"			16.2(0.9)		
SRK-520M5	M5	Double	5 Ports 2 Positions	9 (0.5)	1.5 ~ 7 (150 ~ 700)	
SRK-7201	1/8"			16.2(0.9)		
SRK-5(3)0M5	M5	Double	5 Ports 3 Positions	9 (0.5)	1.5 ~ 7 (150 ~ 700)	
SRK-7(3)01	1/8"			16.2(0.9)		

Note : 5 Ports 3 Positions (3) Normally close (4) Normally free (5) Normally open.

SRK series SOLENOID VALVE ( One-Touch Fitting Type ) **SRK**



Model	Port Size Rc (PT)	Coil type	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kg/cm <sup>2</sup> (Kpa)	Voltage
SRK-5100-C4	M5	Single	5 Ports 2 Positions	9 (0.5)	1.5 ~ 7 (150 ~ 700)	DC 12V DC 24V
SRK-5100-C6	M5			9 (0.5)		
SRK-7100-C6	1/8"			16.2(0.9)		
SRK-7100-C8	1/8"			16.2(0.9)		
SRK-5200-C4	M5	Double	5 Ports 2 Positions	9 (0.5)	1.5 ~ 7 (150 ~ 700)	
SRK-5200-C6	M5			9 (0.5)		
SRK-7200-C6	1/8"			16.2(0.9)		
SRK-7200-C8	1/8"			16.2(0.9)		
SRK-5(3)00-C4	M5	Double	5 Ports 3 Positions	9 (0.5)	1.5 ~ 7 (150 ~ 700)	
SRK-5(3)00-C6	M5			9 (0.5)		
SRK-7(3)00-C6	1/8"			16.2(0.9)		
SRK-7(3)00-C8	1/8"			16.2(0.9)		

Note : 5 Ports 3 Positions (3) Normally close (4) Normally free (5) Normally open.

SK series SOLENOID VALVE **SK**



Model	Port Size Rc (PT)	Coil type	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kg/cm <sup>2</sup> (Kpa)	Voltage
SK-5101	1/8"	Single (Piston returned)	5 Ports 2 Positions	12 (0.67)	1.5 ~ 7 (150 ~ 700)	DC 12V DC 24V AC 110V AC 220V
SK-6101	1/8"			14 (0.78)		
SK-6102	1/4"	Single (Spring returned)		14 (0.78)		
SK-8102	1/4"			25 (1.4)		
SK-8103	3/8"	25 (1.4)				
SK-5201	1/8"	Double		5 Ports 2 Positions		
SK-6201	1/8"		14 (0.78)			
SK-6202	1/4"		14 (0.78)			
SK-8202	1/4"		25 (1.4)			
SK-8203	3/8"		25 (1.4)			
SK-5231	1/8"		Double		5 Ports 3 Positions	
SK-6231	1/8"	N.O. Normally Open		14 (0.78)		
SK-6232	1/4"	N.C. Normally Close		14 (0.78)		
SK-8232	1/4"	N.F. Normally Free		25 (1.4)		
SK-8233	3/8"	25 (1.4)				

Note : Standard type for 5 Ports 3 Positions is N.C ( Normally Close ) ; N.O Normally Open is customized.



SNK series SOLENOID VALVE

SNK



Model	Port Size Rc (PT)	Coil type	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kg/cm <sup>2</sup> (Kpa)	Voltage
SNK-6102	1/4"	Single	5 Ports 2 Positions	12(0.67)	1.5 ~ 7 ( 150 ~ 700 )	DC 12V DC 24V
SNK-8103	3/8"			14(0.78)		
SNK-6202	1/4"	Double	5 Ports 2 Positions	12(0.67)	1.5 ~ 7 ( 150 ~ 700 )	AC 110V AC 220V
SNK-8203	3/8"			14(0.78)		

SKU series 3 PORTS SOLENOID VALVE

SKU



Model	Port Size Rc (PT)	Coil type	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kg/cm <sup>2</sup> (Kpa)	Voltage
SKU-5101	1/8"	Single	3 Ports 2 Positions	12 (0.67)	1 ~ 7 ( 100 ~ 700 )	DC 12V DC 24V AC 110V AC 220V
SKU-6101	1/8"			14 (0.78)		
SKU-6102	1/4"			14 (0.78)		
SKU-8102	1/4"			25 (1.4)		
SKU-8103	3/8"			25 (1.4)		

SV series SOLENOID VALVE

SV



Model	Port Size Rc (PT)	Coil type	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kg/cm <sup>2</sup> (Kpa)	Voltage	
SV-5101	1/8"	Single (Piston returned)	5 Ports 2 Positions	12 (0.67)	1.5 ~ 7 ( 150 ~ 700 )	DC 12V DC 24V AC 110V AC 220V	
SV-6101	1/8"	Single (Spring returned)		14 (0.78)			
SV-6102	1/4"			14 (0.78)			
SV-8102	1/4"			25 (1.4)			
SV-8103	3/8"			25 (1.4)			
SV-9104	1/2"		50 (2.78)				
SV-5201	1/8"	Double	5 Ports 2 Positions	12 (0.67)	1.5 ~ 7 ( 150 ~ 700 )		DC 12V DC 24V AC 110V AC 220V
SV-6201	1/8"			14 (0.78)			
SV-6202	1/4"			14 (0.78)			
SV-8202	1/4"			25 (1.4)			
SV-8203	3/8"			25 (1.4)			
SV-9204	1/2"	50 (2.78)					
SV-5231	1/8"	Double N.O. Normally Open	5 Ports 3 Positions	12 (0.67)	2 ~ 7 ( 200 ~ 700 )	DC 12V DC 24V AC 110V AC 220V	
SV-6231	1/8"			14 (0.78)			
SV-6232	1/4"			14 (0.78)			
SV-8232	1/4"			25 (1.4)			
SV-8233	3/8"			25 (1.4)			
SV-9234	1/2"	N.F. Normally Free	50 (2.78)				

Note : Standard type for 5 Ports 3 Positions is N.C ( Normal Close ) : N.O Normal Open is Custom.

SV310 series 3 PORTS SOLENOID VALVE

SV310



Model	Port Size Rc (PT)	Coil type	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Voltage
SV-310	1/8"	Single	3 Ports 2 Positions	1.5 (0.08)	DC 24V AC 110V AC 220V

SKV507 series 3 PORTS SOLENOID VALVE

SKV507



Model	Port Size Rc (PT)	Coil type	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Voltage
SKV507-01	1/8"	Single	3 Ports 2 Positions	4.3(0.24)	DC 24V
SKV507-01-V	1/8"				
SKV507-02	1/4"				
SKV507-02-V	1/4"				

Note : (-V) VAcuum Type

SKV507U series 3 PORTS SOLENOID VALVE

SKV507U



Model	Port Size Rc (PT)	Coil type	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Voltage
SKV507U	1/8"	Single	3 Ports 2 Positions	3.06(0.17)	DC 24V
SKV507U-V	1/8"				

Note : (-V) VAcuum Type

SKB series 3 PORTS SOLENOID VALVE ( Direct operated )

SKB



Model	Port Size Rc (PT)	Coil type	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Voltage
SKB-310M5	M5	Single	3 Ports 2 Positions	0.15	DC 24V
SKB-3101	1/8"				

SKB300U series 3 PORTS SOLENOID VALVE

SKB300U



Model	Port Size Rc (PT)	Coil type	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Voltage
SKB310U	1/8"	Single	3 Ports 2 Positions	4.14(0.23)	DC 24V
SKB310U-V	1/8"				

Note : (-V) VAcuum Type

SN series SOLENOID VALVE ( "NAMUR" Type )

SN



Model	Port Size Rc (PT)	Coil type	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kg/cm <sup>2</sup> (Kpa)	Voltage
SN-8102	1/4"	Single (Spring returned)	5 Ports 2 Positions	18 (1.0)	1 ~ 7 ( 100 ~ 700 )	DC 12V DC 24V AC 110V AC 220V
SN-8202		Double				



SZB series SOLENOID VALVE ( Base Mounting type )

SZB



Model	Port Size Rc (PT)	Coil type	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Voltage
SZB-2101	1/8"	Single	5 Ports 2 Positions	0.16	1.5 ~ 7 ( 150 ~ 700 )	DC 12V
SZB-2201		Double	5 Ports 3 Positions			DC 24V
SZB-2(3)01						

Note : 5 Ports 3 Positions (3) Normally close (4) Normally free (5) Normally open.

SZBC series SOLENOID VALVE ( Base Mounting type with speed Control )

SZBC



Model	Port Size Rc (PT)	Coil type	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Voltage
SZBC-2101	1/8"	Single	5 Ports 2 Positions	0.16	1.5 ~ 7 ( 150 ~ 700 )	DC 12V
SZBC-2201		Double	5 Ports 3 Positions			DC 24V
SZBC-2(3)01						

Note : 5 Ports 3 Positions (3) Normally close (4) Normally free (5) Normally open.

ISO 4 series SOLENOID VALVE

ISO



Model	Port Size Rc (PT)	Coil type	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Voltage
ISO-4104	1/2"	Single	5 Ports	3.4	0.2 ~ 0.7 ( 20 ~ 70 )	DC 12V
ISO-4204		Double	2 Positions			DC 24V

SUB series 2 PORTS CYLINDER VALVE

SUB



Model	Port Size Rc (PT)	Operation	Operated Type	Type of actuation	Suitable Fluid Type		Voltage (Coil Type)
					Air	Water	
SUB-08	1/4"	-01 (N.C.) -02 (N.O.) -03 (Double Action)	-P (Air pilot type) -S (Coil type)	2 Ports 2 Positions	0~0.9 (0~9)	0~0.5 (0~5)	DC12V
SUB-10	3/8"						DC24V
SUB-15	1/2"						AC110
SUB-20	3/4"						AC220

SBS series 2 PORTS SOLENOID VALVE ( Stainless steel body )

SBS



Model	Port Size Rc (PT)	Operation	Orifice mm <sup>2</sup> (Cv)	Suitable Fluid Type						Voltage	
				Air	Water	Hot Water	Oil	Gas	Vacuum		
SBS - 01	1/8"	Direct Operated	4.9 (0.27)	0~7	—						DC 24V
SBS - C6	Ø6				AC 110V						

Note : 1. Standard type : air , water. 2. Custom made for oil , gas , vacuum type.

SU series 2 PORTS SOLENOID VALVE

SU



Model	Max.Pressure	port size	Weight (kg)	IN Port	OUT Port	Orifice (Cv)	Voltage
SU - 12	1.0 Mpa	Ø1.6	0.05	Ø4	Ø4	0.07	DC12/24V
SU - 22	1.0 Mpa	Ø3.2	0.08	Ø6	Ø6	0.3	DC12/24V

SUD,SUD2,SUW,SUW2,SUS,SAS,SDC series 2 PORTS SOLENOID VALVE



Model	Port Size Rc (PT)	Operation	Orifice mm (Cv)	Suitable Fluid Type						Voltage
				Air	Water	Hot Water	Oil	Gas	Vacuum	
SUD - 6	1/8"	Direct Operated (General)	2.5 (0.23)	0 ~ 7						DC 24V AC 110V AC 220V
SUD - 8	1/4"		4 (0.60)	0 ~ 10						
SUD - 10	3/8"		1.2 (0.18)	0 ~ 20						
SUD - 6H	1/8"		2.0 (0.45)	0 ~ 7						
SUD - 8H	1/4"		2.5 (0.23)	0 ~ 10						
SUD - 10H	3/8"		4 (0.60)							
SUD2 - 8	1/4"	Diaphragm Type (High Flow)	10 (2.4)	0~7	0~5	—	0~5	0~7	DC 24V AC 110V AC 220V	
SUD2 - 10	3/8"		15 (4.5)							
SUW - 10	3/8"		20 (8.6)							
SUW - 15	1/2"		25 (12)							
SUW - 20	3/4"		35 (24)							
SUW - 25	1"		40 (28)							
SUW - 35	1 1/2"		50 (48)							
SUW - 40	1 1/2"		10 (2.4)							
SUW - 50	2"		15 (4.5)							
SUW2 - 10	3/8"		20 (8.6)							
SUW2 - 15	1/2"		25 (12)							
SUW2 - 20	3/4"		35 (24)							
SUW2 - 25	1"	40 (28)								
SUW2 - 35	1 1/2"	50 (48)								
SUW2 - 40	1 1/2"	Direct Operated High Temperature steam	17 (4.0)	0.5 ~ 1.5						DC 24V AC 110V AC 220V
SUW2 - 50	2"		17 (6.0)							
SUS - 10	1/2"		22 (12)							
SUS - 20	3/4"		30 (18)							
SUS - 25	1"		32 (22)							
SUS - 35	1 1/2"		50 (48)							
SAS - 6A	1/8"	Direct Operated (General)	2.5 (0.23)	0 ~ 0.7						DC 24V AC 110V AC 220V
SAS - 8A	1/4"		4 (0.58)	0 ~ 10						
SAS - 10A	3/8"	Diaphragm Type (High Flow) Stainless steel body	15 (4.5)	0~7	0~5	—	—	—	DC 24V AC 110V AC 220V	
SAS - 15A	1/2"		20 (8.6)							
SAS - 20A	3/4"		25 (12)							
SAS - 25A	1"		35 (24)							
SAS - 35A	1 1/2"		40 (28)							
SAS - 40A	1 1/2"		50 (48)							
SAS - 50A	2"	Diaphragm Type (Able to bear the strong acid) PVC	6.5 (0.28)	0 ~ 1						DC 24V AC 110V AC 220V
SDC - 8	1/4"		6.5 (0.28)							
SDC - 10	3/8"		6.5 (0.28)							
SDC - 15	1/2"		13 (4)							
SDC - 8-TF	1/4"		Diaphragm Type (Able to bear the strong acid) PTFE	6.5 (0.28)						
SDC - 10-TF	3/8"			6.5 (0.28)						
SDC - 15-TF	1/2"	13 (4)								

Note : 1. Standard type : air , water. 2. Custom made for oil , gas , vacuum type.



SFW series 2 PORTS SOLENOID VALVE

SFW



Model	Max. Pressure	port size	Weight (kg)	IN Port	OUT Port	Flow rate (Cv)	Voltage
SFW - 30	1.0 Mpa	Ø3.0	0.1	Ø4	Ø4	0.3	DC12/24V
				Ø6	Ø6		
SFW - 40	1.0 Mpa	Ø6.0	0.23	Ø8	Ø8	1.1	DC12/24V
				Ø10	Ø10		

PM series AIR OPERATED VALVE

PM



Model	Port Size Rc (PT)	Air Pilot type	Type of actuation	Operation	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kg/cm <sup>2</sup> (Kpa)
PM-310M5	M5	Single Air pilot	5 Ports 2 Positions	Air	3.6 (0.2)	1.5 ~ 7 (150 ~ 700)
PM-5101	1/8"				9 (0.5)	
PM-7101	1/8"				16.2 (0.9)	
PM-7102	1/4"				16.2 (0.9)	
PM-9102	1/4"				30.6 (1.7)	
PM-9103	3/8"	30.6 (1.7)				
PM-320M5	M5	Double Air pilot	5 Ports 2 Positions	Air	3.6 (0.2)	1.5 ~ 7 (150 ~ 700)
PM-5201	1/8"				9 (0.5)	
PM-7201	1/8"				16.2 (0.9)	
PM-7202	1/4"				16.2 (0.9)	
PM-9202	1/4"				30.6 (1.7)	
PM-9203	3/8"	30.6 (1.7)				
PM-3(3)0M5	M5	Double Air pilot	5 Ports 3 Positions	Air	3.6 (0.2)	2 ~ 7 (200 ~ 700)
PM-5(3)01	1/8"				9 (0.5)	
PM-7(3)01	1/8"				16.2 (0.9)	
PM-7(3)02	1/4"				16.2 (0.9)	
PM-9(3)02	1/4"				30.6 (1.7)	
PM-9(3)03	3/8"	30.6 (1.7)				

Note : 5 Ports 3 Positions (3) Normally close (4) Normally free (5) Normally open.

PM series AIR OPERATED VALVE ( One-Touch Fitting Type )

PM



Model	Port Size Rc (PT)	Air Pilot type	Type of actuation	Operation	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kg/cm <sup>2</sup> (Kpa)
PM-3100-C4	Ø4	Single Air pilot	5 Ports 2 Positions	Air	3.6 (0.2)	1.5 ~ 7 (150 ~ 700)
PM-5100-C4	Ø4				9 (0.5)	
PM-5100-C6	Ø6				9 (0.5)	
PM-5100-C8	Ø8				9 (0.5)	
PM-7100-C6	Ø6				16.2 (0.9)	
PM-7100-C8	Ø8				16.2 (0.9)	
PM-7100-C10	Ø10				16.2 (0.9)	
PM-9100-C8	Ø8				30.6 (1.7)	
PM-9100-C10	Ø10				30.6 (1.7)	
PM-9100-C12	Ø12				30.6 (1.7)	
PM-5200-C4	Ø4	Double Air pilot	5 Ports 2 Positions	Air	9 (0.5)	1.5 ~ 7 (150 ~ 700)
PM-5200-C6	Ø6				9 (0.5)	
PM-5200-C8	Ø8				9 (0.5)	
PM-7200-C6	Ø6				16.2 (0.9)	
PM-7200-C8	Ø8				16.2 (0.9)	
PM-7200-C10	Ø10				16.2 (0.9)	
PM-9200-C8	Ø8				30.6 (1.7)	
PM-9200-C10	Ø10				30.6 (1.7)	
PM-9200-C12	Ø12				30.6 (1.7)	
PM-5(3)00-C4	Ø4				Double Air pilot	
PM-5(3)00-C6	Ø6	9 (0.5)				
PM-5(3)00-C8	Ø8	9 (0.5)				
PM-7(3)00-C6	Ø6	16.2 (0.9)				
PM-7(3)00-C8	Ø8	16.2 (0.9)				
PM-7(3)00-C10	Ø10	16.2 (0.9)				
PM-9(3)00-C8	Ø8	30.6 (1.7)				
PM-9(3)00-C10	Ø10	30.6 (1.7)				
PM-9(3)00-C12	Ø12	30.6 (1.7)				

Note : 5 Ports 3 Positions (3) Normally close (4) Normally free (5) Normally open.

PMB series AIR OPERATED VALVE ( Base Mounting type with One-Touch Fitting )

PMB



Model	Port Size Rc (PT)	Air Pilot type	Type of actuation	Operation	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kg/cm <sup>2</sup> (Kpa)
PMB-310M5	M5	Single Air pilot	5 Ports 2 Positions	Air	3.6 (0.2)	1.5 ~ 7 (150 ~ 700)
PMB-5101	1/8"				10.8 (0.6)	
PMB-7102	1/4"				18.2 (1.0)	
PMB-9103	3/8"				36 (2.0)	
PMB-320M5	M5	Double Air pilot	5 Ports 2 Positions	Air	3.6 (0.2)	1.5 ~ 7 (150 ~ 700)
PMB-5201	1/8"				10.8 (0.6)	
PMB-7202	1/4"				18.2 (1.0)	
PMB-9203	3/8"				36 (2.0)	
PMB-3(3)M5	M5	Double Air pilot	5 Ports 3 Positions	Air	3.6 (0.2)	2 ~ 7 (200 ~ 700)
PMB-5(3)01	1/8"				10.8 (0.6)	
PMB-7(3)02	1/4"				18.2 (1.0)	
PMB-9(3)03	3/8"				36 (2.0)	

Note : 5 Ports 3 Positions (3) Normally close (4) Normally free (5) Normally open.

PMU series AIR OPERATED VALVE

PMU



Model	Port Size Rc (PT)	Air Pilot type	Type of actuation	Operation	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kg/cm <sup>2</sup> (Kpa)
PMU-510M5	M5	Single Air pilot	3 Ports 2 Positions	Air	2.16 (0.12)	1.5 ~ 7 (150 ~ 700)
PMU-7101	1/8"				12.6 (0.7)	

PMUB series AIR OPERATED VALVE ( Base Mounting Type )

PMUB



Model	Port Size Rc (PT)	Air Pilot type	Type of actuation	Operation	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kg/cm <sup>2</sup> (Kpa)
PMUB-510M5	M5	Single Air pilot	3 Ports 2 Positions	Air	3.06 (0.17)	1.5 ~ 7 (150 ~ 700)
PMUB-5101	1/8"				3.06 (0.17)	
PMUB-7101	1/8"				11.7 (0.65)	
PMUB-7102	1/4"				11.7 (0.65)	

PV series AIR OPERATED VALVE

PV



Model	Port Size Rc (PT)	Type of actuation	Operation	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kg/cm <sup>2</sup> (Kpa)
PV-5101	1/8"	5 Ports 2 Positions	Air	12 (0.67)	1.5 ~ 7 (150 ~ 700)
PV-6101	1/8"			14 (0.78)	
PV-6102	1/4"			14 (0.78)	
PV-8102	1/4"			25 (1.4)	
PV-8103	3/8"			25 (1.4)	
PV-9104	1/2"			50 (2.78)	
PV-5201	1/8"	5 Ports 2 Positions	Air	12 (0.67)	1.5 ~ 7 (150 ~ 700)
PV-6201	1/8"			14 (0.78)	
PV-6202	1/4"			14 (0.78)	
PV-8202	1/4"			25 (1.4)	
PV-8203	3/8"			25 (1.4)	
PV-9204	1/2"			50 (2.78)	
PV-5101-TA	1/8"	3 Ports 2 Positions	Air	12 (0.67)	2 ~ 7 (200 ~ 700)
PV-5101-TB	1/4"			12 (0.67)	
PV-6101-TA	1/8"			14 (0.78)	
PV-6102-TB	1/4"			14 (0.78)	
PV-6231	1/8"			14 (0.78)	
PV-6232	1/4"			14 (0.78)	



PN series AIR OPERATED VALVE ( "NAMUR" Type )

PN



Model	Port Size Rc (PT)	Type of actuation	Operation	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kgf/cm <sup>2</sup> (Kpa)
PN-8102	1/4"	5 Ports 2 Positions	Air (Spring returned)	18 (1.0)	1.5 ~ 7 ( 150 ~ 700 )
PN-8202			Air		

MV100 series HAND OPERATED VALVE

MV100



Model	Port Size Rc (PT)	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Connection Type	Remarks
MV-10-02-V	1/8"	2 Ports 2 Positions	14 ( 0.78 )	Lateral Connection	Press button type
MV-10-03-V		3 Ports 2 Positions			Press button type
MV-10-02-P	1/8"	2 Ports 2 Positions	14 ( 0.78 )	Lateral Connection	Toggle lever type
MV-10-03-P		3 Ports 2 Positions			Toggle lever type

MV110 series HAND OPERATED VALVE

MV110



Model	Port Size Rc (PT)	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Connection Type	Remarks
MV-11-03-01	1/8"	5 Ports 2 Positions	1.9	Lateral Connection	Press button type
MV-11-03-02					Push button type
MV-11-03-03					Two way push button

MV130 series MECHANICAL VALVE

MV130



Model	Port Size Rc (PT)	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Connection Type	Remarks
MV-13-03-01	1/8"	3 Ports 2 Positions	4.5	Lateral Connection	Press button type
MV-13-03-02					Push button type
MV-13-05-01					5 Ports 2 Positions
MV-13-05-02	Push button type				
MV-13-05-03	Two way push button				

MV150 series MECHANICAL VALVE

MV150



Model	Port Size Rc (PT)	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Connection Type	Remarks
MV-15-□-01	1/8"	3 Ports 2 Positions	7 ( 0.39 )	S:Lateral Connection B:Bottom Connection F:With flange Base	Basic Type
MV-15-□-02					Roller Lever
MV-15-□-03					One Way Roller Lever
MV-15-□-04					Toggle Lever
MV-15-□-05					Tumb Lever
MV-15-□-06					Push Button (Flush)
MV-15-□-07					Push Button (Extended)
MV-15-□-08					Push Button (Mushroom)
MV-15-□-09					Stop Cock Button
MV-15-□-10					Twist Selector(2 Positions)
MV-15-□-11					Key Selector (2 Positions)

MV200 series MECHANICAL VALVE

MV200



Model	Port Size Rc (PT)	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Connection Type	Remarks
MV-20-01	1/4"	3 Ports 2 Positions	33 ( 1.83 )	Lateral Connection	Basic Type
MV-20-02					Roller Lever
MV-20-03					One Way Roller Lever
MV-20-06					Push Button (Flush)
MV-20-07					Push Button (Extended)
MV-20-08					Push Button (Mushroom)
MV-20-09					Stop Cock Button
MV-20-10					Twist Selector (2 Positions)
MV-20-11					Key Selector (2 Positions)

MV230 series MECHANICAL VALVE

MV230



Model	Port Size Rc (PT)	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Connection Type	Remarks
MV-23-01	1/8"	5 Ports 2 Positions	12 ( 0.67 )	Lateral Connection	Basic Type
MV-23-02					Roller Lever
MV-23-03					One Way Roller Lever
MV-23-06					Push Button (Flush)
MV-23-07					Push Button (Extended)
MV-23-08					Push Button (Mushroom)
MV-23-09					Stop Cock Button
MV-23-10					Twist Selector (2 Positions)
MV-23-11					Key Selector (2 Positions)

MV250 series MECHANICAL VALVE

MV250



Model	Port Size Rc (PT)	Type of actuation	Orifice mm <sup>2</sup> (Cv)	Connection Type	Remarks
MV-25-01	1/8"	5 Ports 2 Positions	14 ( 0.78 )	Lateral Connection	Basic Type
MV-25-02					Roller Lever
MV-25-03					One Way Roller Lever
MV-25-06					Push Button (Flush)
MV-25-07					Push Button (Extended)
MV-25-08					Push Button (Mushroom)
MV-25-09					Stop Cock Button
MV-25-10					Twist Selector (2 Positions)
MV-25-11					Key Selector (2 Positions)

HVL series HAND-OPERATED VALVE

HVL



Model	Port Size Rc (PT)	Type of actuation	Operation	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kgf / cm <sup>2</sup> (Kpa)
HVL - 601	1/8"	5 Ports 2 Positions	Manual,Front and End swinging	14 (0.78)	0 ~ 7 ( 0 ~ 700 )
HVL - 602	1/4"			14 (0.78)	
HVL - 802	1/4"			18 (1.0)	
HVL - 803	3/8"			18 (1.0)	
HVL - 631	1/8"			14 (0.78)	
HVL - 632	1/4"	5 Ports 3 Positions		18 (1.0)	
HVL - 832	1/4"			18 (1.0)	
HVL - 833	3/8"			50 (2.78)	

HVM series HAND-OPERATED VALVE

HVM



Model	Port Size Rc (PT)	Type of actuation	Operation	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kgf / cm <sup>2</sup> (Kpa)
HVM - 402	1/4"	4 Ports 3 Positions	Manual,Left and Right swinging	17 (0.94)	0 ~ 7 ( 0 ~ 700 )
HVM - 403	3/8"				
HVM - 404	1/2"				



HVT series HAND-OPERATED VALVE

HVT



Model	Port Size Rc (PT)	Type of actuation	Operation	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kgf / cm <sup>2</sup> (Kpa)
HVT - 200 - 6A	1/8"	4 Ports 3 Positions	Manual, Left and Right swinging	17 (0.94)	0 ~ 7 (0 ~ 700)
HVT - 200 - 8A	1/4"				

FVA series FOOT-OPERATED VALVE

FVA



Model	Port Size Rc (PT)	Type of actuation	Max. Pressure Kgf / cm <sup>2</sup>	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kgf / cm <sup>2</sup> (Kpa)
FVA - 320	1/4"	3 Ports 2 Positions	10	8	0 ~ 7 (0 ~ 700)
FVA - 420		4 Ports 2 Positions			

FVS series FOOT-OPERATED VALVE

FVS



Model	Port Size Rc (PT)	Type of actuation	Max. Pressure Kgf / cm <sup>2</sup>	Orifice mm <sup>2</sup> (Cv)	Pressure Range Kgf / cm <sup>2</sup> (Kpa)
FVS - 320	1/4"	3 Ports 2 Positions	10	12	0 ~ 7 (0 ~ 700)
FVS - 520		5 Ports 2 Positions			

QE series QUICK EXHAUST VALVE

QE



Model	Port Size Rc (PT)	Flow Rate L/min		Orifice mm <sup>2</sup> (Cv)	Pressure Range Kgf / cm <sup>2</sup> (Kpa)
		P → A	A → R		
QE - 802	1/4"	1000	1500	14 (0.78)	1 ~ 7 (100 ~ 700)
QE - 803	3/8"	1000	1500	18 (1.0)	

QEB series QUICK EXHAUST VALVE

QEB



Model	Port Size Rc (PT)	Flow Rate L/min (7 kg)		Orifice mm <sup>2</sup> (Cv)	Pressure Range Kgf / cm <sup>2</sup> (Kpa)
		P → A	A → R		
QEB - 01	Ø4	350	770	8	8 (800)
	Ø6	490	770		
QEB - 02	Ø6	520	820	16	
	Ø8	620	820		
QEB - 03	Ø10	650	840	30	
	Ø12	680	840		

QEBC series QUICK EXHAUST VALVE

QEBC



Model	Port Size Rc (PT)	Flow Rate L/min (7 kg)		Orifice mm <sup>2</sup> (Cv)	Pressure Range Kgf / cm <sup>2</sup> (Kpa)
		P → A	A → R		
QEBC - 01	Ø4	350	450	08	8 (800)
	Ø6	490	580		
QEBC - 02	Ø6	630	720	10	
	Ø8	700	830		
QEBC - 03	Ø10	820	910	22	
	Ø12	890	1050		

QED series QUICK EXHAUST VALVE

QED



Model	Port Size Rc (PT)	Flow Rate L/min (7 kg)		Orifice mm <sup>2</sup> (Cv)	Pressure Range Kgf / cm <sup>2</sup> (Kpa)
		P → A	A → R		
QED - 01	Ø4	280	380	08	8 (800)
	Ø6	600	650		
QED - 02	Ø6	570	640	10	
	Ø8	710	910		
QED - 03	Ø10	1000	1500	22	
	Ø12	1400	1900		

QEH series QUICK EXHAUST VALVE ( Exhaust to air )

QEH



Model	Port Size Rc (PT)	Flow Rate L/min		Orifice mm <sup>2</sup> (Cv)	Pressure Range Kgf / cm <sup>2</sup> (Kpa)
		P → A	A → R		
QEH - 4	Ø4	85	100	1.5	1 ~ 7
QEH - 6	Ø6	190	200	3.5	

QEU series QUICK EXHAUST VALVE ( Exhaust To Air )

QEU



Model	Port Size Rc (PT)	Flow Rate L/min		Orifice mm <sup>2</sup> (Cv)	Pressure Range Kgf / cm <sup>2</sup> (Kpa)
		P → A	A → R		
QEU - 4	Ø4	85	100	1.5	1 ~ 7
QEU - 6	Ø6	190	200	3.5	

QEUC series QUICK EXHAUST VALVE ( With Speed Control )

QEUC



Model	Port Size Rc (PT)	Flow Rate L/min		Orifice mm <sup>2</sup> (Cv)	Pressure Range Kgf / cm <sup>2</sup> (Kpa)
		P → A	A → R		
QEUC - 4	Ø4	85	90	1.5	1 ~ 7
QEUC - 6	Ø6	190	200	3.5	

SC series SPEED CONTROLLER ( In-line Type )

SC



Model	Port Size Rc (PT)	Flow Rate L/min		Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Applicable Cylinder
		Control side	Free side		
ASC-150-01	1/8"	250	340	1 ~ 9 (100 ~ 900)	Ø12, Ø16, Ø20, Ø25, Ø32
ASC-150-02	1/4"	250	340		
BSC-300-02	1/4"	800	800		Ø32, Ø40, Ø50, Ø63
BSC-300-03	3/8"	800	800		
CSC-400-03	3/8"	1650	1650		Ø50, Ø63, Ø80, Ø100, Ø125
CSC-400-04	1/2"	1650	1650		



**NA series CARTRIDGE CYLINDER**

**NA**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Operation	Mounting Type	Speed Range mm/s	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Standard Stroke mm
NA-12	12	5.6	Single Acting	Panel sert	50 ~ 500	1 ~ 7 ( 100 ~ 700 )	5,10,15
NA-16	16	10					
NAD-12	12	5.6	Double Acting	Panel sert	50 ~ 500	1 ~ 7 ( 100 ~ 700 )	5,10,15
NAD-16	16	10					

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**NA2 series CARTRIDGE CYLINDER**

**NA2**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Operation	Mounting Type	Speed Range mm/s	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Standard Stroke mm
NA2B-6	6	1.4	Single Acting	Panel sert	50 ~ 500	1.5 ~ 7 ( 150 ~ 700 )	5,10,15
NA2B-10	10	3.9					
NA2B-12	12	5.6					
NA2B-16	16	10					
NA2S-6	6	1.4	Single Acting	Embedded type	50 ~ 500	1.5 ~ 7 ( 150 ~ 700 )	5,10,15
NA2S-10	10	3.93					
NA2S-12	12	5.6					
NA2S-16	16	10					
NA2T-6	6	1.4	Single Acting	Panel sert	50 ~ 500	1.5 ~ 7 ( 150 ~ 700 )	5,10,15
NA2T-10	10	3.93					
NA2T-12	12	5.6					
NA2T-16	16	10					

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**NB series CARTRIDGE CYLINDER**

**NB**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Operation	Mounting Type	Speed Range mm/s	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Standard Stroke mm
NB-6	6	1.4	Double Acting	Panel sert	50 ~ 500	1 ~ 8.5 ( 100 ~ 850 )	5 ~ 25
NB-10	10	3.9					5 ~ 40
NB-16	16	10					5 ~ 40

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**NU series FREE MOUNT CYLINDER**

**NU**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Operation	Mounting Type	Speed Range mm/s	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Standard Stroke mm
NU-6	6	1.4	Double Acting	Side Front	50 ~ 500	1.5 ~ 7 ( 150 ~ 700 )	4 ~ 15
NU-8	8	2.5					4 ~ 20
NU-10	16	3.9					4 ~ 20

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**ND series FREE MOUNT CYLINDER**

**ND**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Operation	Mounting Type	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
ND-16	16	10	Single Acting	Horizontal	50 ~ 700	1.5 ~ 8.5 ( 150 ~ 850 )	10 ~ 30
ND-20	20	15		Vertical			
ND-25	25	24		Side			
ND-32	32	40	Double Acting	Flange	50 ~ 700	1.5 ~ 8.5 ( 150 ~ 850 )	10 ~ 60
ND-40	40	62		Flange			

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**NQ series FREE MOUNT CYLINDER**

**NQ**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Operation	Mounting Type	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
NQ-06	6	1.4	Single Acting	Horizontal	50 ~ 700	1.5 ~ 8.5 ( 150 ~ 850 )	10~30
NQ-10	10	4		Vertical			
NQ-16	16	10	Double Acting	Side	50 ~ 700	1.5 ~ 8.5 ( 150 ~ 850 )	10~60
NQ-20	20	15					
NQ-25	25	24					
NQ-32	32	40					

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**NQT series FREE MOUNT CYLINDER ( Non - Rotating )**

**NQT**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Operation	Mounting Type	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
NQT-10	10	4	Single Acting	Horizontal	50 ~ 700	1.5 ~ 8.5 ( 150 ~ 850 )	10 ~ 30
NQT-16	16	10		Vertical			
NQT-20	20	15	Double Acting	Side	50 ~ 700	1.5 ~ 8.5 ( 150 ~ 850 )	10 ~ 60
NQT-25	25	24					
NQT-32	32	40					

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**NQDK series FREE MOUNT CYLINDER ( For Vacuum )**

**NQDK**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Operation	Mounting Type	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
NQDK-20	20	13	Single Acting	Horizontal	50 ~ 700	1.5 ~ 8.5 ( 150 ~ 850 )	10 ~ 60
NQDK-25	25	20		Vertical			
NQDK-32	32	34	Double Acting	Side	50 ~ 700	1.5 ~ 8.5 ( 150 ~ 850 )	10 ~ 60
NQDK-32	32	34					

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**MSI series MINI COMPACT CYLINDER**

**MSI**



Model	Port Size Rc ( PT )	Operation	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Max.Service Pressure Kgf / cm <sup>2</sup> (Kpa)
MSI - 06	M3 x 0.5	Single Acting	50 ~ 500	2 ~ 7 ( 200 ~ 700 )	9.5 ( 950 )
MSI - 10	M5 x 0.8				

**JQ series COMPACT CYLINDER**

**JQ**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Operation	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
JQ-20	20	15	Double Acting	50 ~ 500	1.5 ~ 7 ( 150 ~ 700 )	10,20,30,40,50 60,75,85,100
JQ-25	25	24				
JQ-32	32	40				
JQ-40	40	62		50 ~ 350	1 ~ 7 ( 100 ~ 700 )	
JQ-50	50	98				
JQ-63	63	155				
JQ-80	80	251	50 ~ 250			
JQ-100	100	392				

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>



**JD series COMPACT CYLINDER**

**JD**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Operation	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm		
JD-6	6	1.4	Double Acting	50 ~ 500	2 ~ 7 ( 200 ~ 700 )	5 ~ 30		
JD-10	10	3.9				5 ~ 50		
JD-12	12	5.6			50 ~ 350	1.5 ~ 7 ( 150 ~ 700 )	5 ~ 100	
JD-16	16	10					50 ~ 250	1 ~ 7 ( 100 ~ 700 )
JD-20	20	15				5 ~ 100		
JD-25	25	24						5 ~ 100
JD-32	32	40		5 ~ 100				
JD-40	40	62				5 ~ 100		
JD-50	50	98		5 ~ 100				
JD-63	63	155			5 ~ 100			
JD-80	80	251		5 ~ 100				
JD-100	100	392			5 ~ 100			
JD-125	125	613	5 ~ 100					
JSI(O)-12	12	5.6		Single Acting	50 ~ 500	2 ~ 7 ( 200 ~ 700 )	5 ~ 30	
JSI(O)-16	16	10	1.5 ~ 7 ( 150 ~ 700 )					
JSI(O)-20	20	15				1 ~ 7 ( 100 ~ 700 )		
JSI(O)-25	25	24	JSI: (Normally In) JSO: (Normally Out)					
JSI(O)-32	32	40						
JSI(O)-40	40	62						
JSI(O)-50	50	98						

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**JDD / JDAD / JDAR series COMPACT CYLINDER ( Stroke Adjustable )**

**JDD**



Model	Bore Size Ø mm	Operation	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Adjustable Stroke mm	Standard Stroke mm
JDD	20,25,32,40 50,63,80,125	Double Acting	50 ~ 500	1.5 ~ 7 ( 150 ~ 700 )	—	5 ~ 50
JDAD	20,25,32,40 50,63,80,100				25,40	30,50,75,100
JDAR	20,25,32,40 50,63				10	Ø20 ~ Ø32 ( 5 ~ 100 ) Ø40 ~ Ø63 ( 5 ~ 150 )

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**JDF series COMPACT CYLINDER ( Dual Stroke )**

**JDF**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Operation	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
JDF-20	20	15	Double Acting	50 ~ 500	1.5 ~ 7 ( 150 ~ 700 )	10,20,30,40,50 60,75,85,100
JDF-25	25	24				
JDF-32	32	40				
JDF-40	40	62				
JDF-50	50	98				
JDF-63	63	155		50 ~ 350	1 ~ 7 ( 100 ~ 700 )	
JDF-80	80	251				
JDF-100	100	392			50 ~ 250	

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**JDM series TANDEM COMPACT CYLINDER**

**JDM**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Operation	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
JDM-20	20	30	Double Acting	50 ~ 500	1.5 ~ 7 ( 150 ~ 700 )	10,20,30,40,50 60,75,85,100
JDM-25	25	48				
JDM-32	32	80				
JDM-40	40	124				
JDM-50	50	196				
JDM-63	63	310		50 ~ 350	1 ~ 7 ( 100 ~ 700 )	
JDM-80	80	502				
JDM-100	100	784			50 ~ 250	

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**JDW series COMPACT CYLINDER WITH DUSTY RING**

**JDW**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Operation	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
JDW-20	20	15	Double Acting	Double Acting : 50 ~ 500 Single Acting : 100 ~ 500	1.5 ~ 7 ( 150 ~ 700 )	5 ~ 100
JDW-25	25	24				
JDW-32	32	40				
JDW-40	40	62				
JDW-50	50	98	Single Acting	Double Acting : 50 ~ 350 Double Acting : 50 ~ 250	1 ~ 7 ( 100 ~ 700 )	5 ~ 150
JDW-63	63	155				
JDW-80	80	251				
JDW-100	100	392				

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**JG series COMPACT CYLINDER ( Dust Proof )**

**JG**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Operation	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke (with magnet) mm
JG-20	20	15	Double Acting	50 ~ 500	1.5 ~ 7 ( 150 ~ 700 )	10,20,30,40,50 60,75,90
JG-25	25	24				
JG-32	32	40				
JG-40	40	62				
JG-50	50	98				
JG-63	63	155		50 ~ 350	1 ~ 7 ( 100 ~ 700 )	
JG-80	80	251				
JG-100	100	392			50 ~ 250	

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**JGD series COMPACT CYLINDER ( Dust Proof & Stroke Adjustable )**

**JGD**



Model	Bore Size Ø mm	Operation	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Adjustable Stroke mm	Standard Stroke (with magnet) mm	
JGD JGAD	20	Double Acting	50 ~ 500	1.5 ~ 7 ( 150 ~ 700 )	JGD	JGD 10,20,30,40,50	
	25						
	32						
	40						
	50						
	63		50 ~ 350	1 ~ 7 ( 100 ~ 700 )	JGAD 25,40	JGAD 20,30,50,75,90	
80							
100							
JGAR	20			50 ~ 500	1.5 ~ 7 ( 150 ~ 700 )	JGAR 10	JGAR 10,20,30,40,50, 65,75,90
	25						
	32						
	40	1 ~ 7 ( 100 ~ 700 )					
	50						
63	50 ~ 350						

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>



**JTD series GUIDE ROD CYLINDER**

**JTD**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Guide Type	Operation	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
JTD-20	20	15	Bush Guide	Double Acting	50 ~ 500	1.5 ~ 7 (150 ~ 700)	5 ~ 50
JTD-25	25	24					5 ~ 75
JTD-32	32	40					5 ~ 75
JTD-40	40	62			50 ~ 350	1 ~ 7 (100 ~ 700)	5 ~ 100
JTD-50	50	98					5 ~ 100
JTD-63	63	155					5 ~ 100

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**JTF series GUIDE ROD CYLINDER ( Flange Type )**

**JTF**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Guide Type	Operation	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
JTF-20	20	15	Bush Guide	Double Acting	50 ~ 500	1.5 ~ 7 (150 ~ 700)	5 ~ 50
JTF-25	25	24					5 ~ 75
JTF-32	32	40					5 ~ 75
JTF-40	40	62			50 ~ 350	1 ~ 7 (100 ~ 700)	5 ~ 100
JTF-50	50	98					5 ~ 100
JTF-63	63	155					5 ~ 100

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**JCB series GUIDE ROD CYLINDER ( Side Mounting Type )**

**JCB**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Guide Type	Non-Rotating Accuracy θ	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
JCB-12	12	5.6	Bush Guide	±0.09	50 ~ 500	1.5 ~ 7 (150 ~ 700)	5 ~ 100
JCB-16	16	10					
JCB-20	20	15					
JCB-25	25	24					
JCB-32	32	40					
JCB-40	40	62					
JCB-50	50	98			50 ~ 350	1 ~ 7 (100 ~ 700)	5 ~ 150
JCB-63	63	155					

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**JCF series TWIN GUIDE CYLINDER ( Flange Type )**

**JCF**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Guide Type	Non-Rotating Accuracy θ	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
JCF-20	20	15	Bush Guide	±0.09	50 ~ 500	1.5 ~ 7 (150 ~ 700)	5 ~ 100
JCF-25	25	24					
JCF-32	32	40					
JCF-40	40	62			50 ~ 350	1 ~ 7 (100 ~ 700)	5 ~ 150
JCF-50	50	98					5 ~ 150
JCF-63	63	155					5 ~ 150

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**JE series COMPACT CYLINDER**

**JE**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Bearing Type	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm	
JE-12	12	5.6	Bush Guide	50 ~ 500	2 ~ 7 (200 ~ 700)	25,50,75,100	
JE-16	16	10					
JE-20	20	15					
JE-25	25	24			1.5 ~ 7 (150 ~ 700)		
JE-32	32	40					
JE-40	40	62					
JE-50	50	98		50 ~ 350	1 ~ 7 (100 ~ 700)	25,50,75,100 125,150	
JE-63	63	155					
JE-80	80	251					
JE-100	100	392					50 ~ 250

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**JEK series COMPACT CYLINDER ( Side Mounting Type )**

**JEK**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Bearing Type	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm	
JEK-12	12	5.6	Bush Guide	50 ~ 500	2 ~ 7 (200 ~ 700)	25,50,75,100	
JEK-16	16	10					
JEK-20	20	15					
JEK-25	25	24			1.5 ~ 7 (150 ~ 700)		
JEK-32	32	40					
JEK-40	40	62					
JEK-50	50	98		50 ~ 350	1 ~ 7 (100 ~ 700)	25,50,75,100 125,150	
JKE-63	63	155					
JEK-80	80	251					
JEK-100	100	392					50 ~ 250

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**JM series OVAL PISTON CYLINDER ( Non-Rotating )**

**JM**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Bearing Type	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
JM-20	20	16	Double Acting	100 ~ 500	2 ~ 6 (200 ~ 600)	5 ~ 100
JM-25	25	24.5				
JM-32	32	40				
JM-40	40	65.5				

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>



**STB series STOPPER CYLINDER (Round Bar Type)**

**STB**



Model	Rod Size Ø mm	Bore Size Ø mm	Operation	Theoretical Thrust Kgf	Load force Kgf	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
STB-32	20	32	Double Acting Single Acting	40	25	1 ~ 9 ( 100 ~ 900 )	10,15,20 mm
STB-40	25	40		62	30		20,25,30 mm
STB-50	25	50		98	50		20,25,30 mm

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**STC series STOPPER CYLINDER (Roller Type)**

**STC**



Model	Rod Size Ø mm	Bore Size Ø mm	Operation	Theoretical Thrust Kgf	Load force Kgf	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
STC-32	20	32	Double Acting Single Acting	40	25	1 ~ 9 ( 100 ~ 900 )	10,15,20 mm
STC-40	25	40		62	30		20,25,30 mm
STC-50	25	50		98	50		20,25,30 mm

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**STD series STOPPER CYLINDER (Lever Type)**

**STD**



Model	Rod Size Ø mm	Bore Size Ø mm	Operation	Theoretical Thrust Kgf	Load force Kgf	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
STD-32	20	32	Double Acting Single Acting	40	25	1 ~ 9 ( 100 ~ 900 )	10,15,20 mm
STD-40	25	40		62	30		20,25,30 mm
STD-50	25	50		98	50		20,25,30 mm

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**STDL series STOPPER CYLINDER (Lever & lock mechanism Type)**

**STDL**



Model	Rod Size Ø mm	Bore Size Ø mm	Operation	Theoretical Thrust Kgf	Load force Kgf	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
STDL-32	20	32	Double Acting Single Acting	40	25	1 ~ 9 ( 100 ~ 900 )	10,15,20 mm
STDL-40	25	40		62	30		20,25,30 mm
STDL-50	25	50		98	50		20,25,30 mm

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**STF series HEAVY DUTY STOPPER CYLINDER (Flange & lock mechanism Type)**

**STF**



Model	Rod Size Ø mm	Bore Size Ø mm	Operation	Theoretical Thrust Kgf	Load force Kgf	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
STF-32	20	32	Double Acting Single Acting	40	80	1 ~ 9 ( 100 ~ 900 )	20 mm
STF-50	30	50		98	550		30 mm

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**SBA series PEN CYLINDER**

**SBA**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Operation	Mounting Type	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
SBA-10	10	3.0	Double Acting	Standard Type FA Type LB Type CA Type	50 ~ 700	\$ 6 : 1.2~7 (120~700) \$ 10,16 : 0.6~7(60~700)	15,30,45,60, 75,100,125, 150,175,200
SBA-16	16	10					
SBR-06	6	1.4					
SBR-10	10	3.0					
SBR-16	16	10					
SBB-10	10	3.0					
SBB-16	16	10					
SBD-10	10	3.0					
SBD-16	16	10					
SBAI-10	10	4.0					
SBAI-16	16	10					
SBRI-06	6	1.4					
SBRI-10	10	3.0					
SBRI-16	16	10	Single Acting Normally Out				15,30,45,60
SBBI-10	10	3.0					
SBBI-16	16	10					
SBRO-06	6	1.0					
SBRO-10	10	3.0					
SBRO-16	16	10					

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**SDA series MINIATURE CYLINDER (Stainless Steel Tube)**

**SDA**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Operation	Mounting Type	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
SDA-12	12	5.7	Standard : Double Acting SDAI : Single Acting (Normally In)	Standard Type FA Type FB Type LB Type CB Type			25 ~ 150
SDA-16	16	10					25 ~ 300
SDA-20	20	15					25 ~ 300 ( 500 )
SDA-25	25	24					
SDA-32	32	40					
SDA-40	40	62					
SDAD-20	20	13	Double Acting (Double Rod)	Standard Type FA Type FB Type LB Type	50 ~ 700	1 ~ 7 ( 100 ~ 700 )	25 ~ 200
SDAD-25	25	20					
SDAD-32	32	34					
SDAD-40	40	52					
SDAL-20	20	13	Double Acting (Adjustable stroke)	Standard Type FA Type FB Type LB Type CB Type			Adjustable Stroke: 25,50
SDAL-25	25	20					
SDAL-32	32	34					
SDAL-40	40	52					
SDAF(M)-20	20	13 (26)	SDAF : Multi-position cylinder SDAM : Tandem cylinder				Max.Stroke: 200mm
SDAF(M)-25	25	20 (40)					
SDAF(M)-32	32	34 (68)					
SDAF(M)-40	40	52 (104)					

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**SDX series STANDARD CYLINDER (Stainless Steel Tube)**

**SDX**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Operation	Mounting Type	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
SDX-20	20	15	Standard : Double Acting	Standard Type FA Type FB Type LB Type CB Type	50 ~ 700	1 ~ 7 ( 100 ~ 700 )	25 ~ 300
SDX-25	25	24					25 ~ 300 ( 500 )
SDX-32	32	40					
SDX-40	40	62					
SDXD-20	20	13	Double Acting (Double Rod)				25 ~ 200
SDXD-25	25	20					
SDXD-32	32	34					
SDXD-40	40	52					
SDXL-20	20	13	Double Acting (Adjustable stroke)				Adjustable Stroke: 25,50
SDXL-25	25	20					
SDXL-32	32	34					
SDXL-40	40	52					

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>



**DBS2 series STANDARD CYLINDER ( Side Mount Type )**

**DBS2**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Operation	Mounting Type	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
DBS2-20	20	15	Double Acting	Side Mount	50 ~ 700	1 ~ 7 ( 100 ~ 700 )	25 ~ 300 ( 500 )
DBS2-25	25	24					
DBS2-32	32	40					
DBS2-40	40	62					

Note : 1. Theoretical Thrust :When air supply to be 5 Kgf/cm<sup>2</sup>.  
2. Bore size change from Ø30 to Ø32.  
3. The material of barrel change from aluminum to stainless steel.

**DBF2 series STANDARD CYLINDER ( Block Mount Type )**

**DBF2**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Operation	Mounting Type	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
DBF2-20	20	15	Double Acting	Vertical Mount	50 ~ 700	1 ~ 7 ( 100 ~ 700 )	25 ~ 300 ( 500 )
DBF2-25	25	24					
DBF2-32	32	40					
DBF2-40	40	62					

Note : 1. Theoretical Thrust :When air supply to be 5 Kgf/cm<sup>2</sup>.  
2. Bore size change from Ø30 to Ø32.  
3. The material of barrel change from aluminum to stainless steel.

**FDA series STANDARD CYLINDER ( Aluminum Tube )**

**FDA**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Operation	Mounting Type	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
FDA-20	20	15	Standard : Double Acting	Standard Type FA Type FB Type LB Type CB Type	50 ~ 700	1 ~ 9 ( 100 ~ 900 )	25 ~ 300
FDA-30	30	40					
FDA-40	40	62	Double Acting (Double Rod)				
FDAD-20	20	13					
FDAD-30	30	40		25 ~ 300 ( 500 )			
FDAD-40	40	52					

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**DBT series TWIN ROD CYLINDER ( Side Mount Type )**

**DBT**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Mounting type	Non-Rotating Accuracy θ	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
DBT-25	25	24	Vertical	±0.1	50 ~ 700	1 ~ 9 ( 100 ~ 900 )	25 ~ 300 ( 500 )
DBT-30	30	34	Parallel	±0.09			
DBT-40	40	62	Side	±0.08			

Note : 1. Non-Rotating Accuracy , θ angle when stroke =100mm.  
2. Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**DN series STANDARD CYLINDER ( ISO Type )**

**DN**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Operation	Mounting Type	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm			
DN-32	32	40	Double Acting	Standard Type FA Type FB Type LB Type CA Type CB Type TC Type	50 ~ 700	1.5 ~ 9 ( 150 ~ 900 )	50 ~ 300			
DN-40	40	62					50 ~ 400			
DN-50	50	98					50 ~ 500			
DN-63	63	155					50 ~ 1000			
DN-80	80	251								
DN-100	100	392								
DN-125	125	613								
DN-160	160	1004					Double Acting (Double Rod)	Standard Type FA Type FB Type LB Type CA Type CB Type TC Type	50 ~ 500	50 ~ 300
DN-200	200	1570								50 ~ 400
DND-32	32	34								50 ~ 500
DND-40	40	52	50 ~ 1000							
DND-50	50	82								
DND-63	63	140								
DND-80	80	226								
DND-100	100	352	Double Acting (Adjustable stroke)	Standard Type FA Type FB Type LB Type CA Type CB Type TC Type	50 ~ 500	50 ~ 300				
DND-125	125	573				50 ~ 400				
DND-160	160	942				50 ~ 1000				
DND-200	200	1507								
DNL-32	32	34					50 ~ 300			
DNL-40	40	52					50 ~ 400			
DNL-50	50	82				50 ~ 500				
DNL-63	63	140								
DNL-80	80	226								
DNL-100	100	352								
DNL-125	125	573	50 ~ 1000							
DNL-160	160	942								
DNL-200	200	1507								

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**DMB series STANDARD CYLINDER**

**DMB**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Operation	Mounting Type	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
DMB-32	Ø32	40	Double Acting	Standard Type FA Type FB Type LB Type CA Type CB Type TC Type	50 ~ 700	1.5 ~ 9 ( 150 ~ 900 )	50 ~ 500
DMB-40	Ø40	62					50 ~ 600
DMB-50	Ø50	98					50 ~ 700
DMB-63	Ø63	155					50 ~ 500
DMB-80	Ø80	251					
DMB-100	Ø100	392					
DMBD-32	Ø32	34	Double Acting (Double Rod)	Standard Type FA Type FB Type LB Type CA Type CB Type TC Type	50 ~ 500	50 ~ 500	
DMBD-40	Ø40	52				50 ~ 600	
DMBD-50	Ø50	82				50 ~ 700	
DMBD-63	Ø63	140				50 ~ 1000	
DMBD-80	Ø80	226					
DMBD-100	Ø100	352					

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>



**DU series STANDARD CYLINDER**

**DU**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Operation	Mounting Type	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
DU-40	40	62	Double Acting		50 ~ 700		50 ~ 300
DU-50	50	98					50 ~ 400
DU-63	63	155					50 ~ 500
DU-80	80	251					
DU-100	100	392					
DU-125	125	613					
DU-160	160	1004					
DU-200	200	1570					
DUD-40	40	52	Double Acting (Double Rod)	Standard Type FA Type FB Type LB Type CA Type CB Type TC Type	50 ~ 500	1.5 ~ 9 ( 150 ~ 900 )	50 ~ 300
DUD-50	50	82					50 ~ 400
DUD-63	63	140					50 ~ 500
DUD-80	80	226					
DUD-100	100	352					
DUD-125	125	573					
DUD-160	160	942					
DUD-200	200	1507					
DUL-40	40	52	Double Acting (Adjustable stroke)		50 ~ 500		50 ~ 300
DUL-50	50	82					50 ~ 400
DUL-63	63	140					50 ~ 500
DUL-80	80	226					
DUL-100	100	352					
DUL-125	125	573					
DUL-160	160	942					
DUL-200	200	1507					

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**DNK series FINE LOCK CYLINDER**

**DNK**



Model	Bore Size Ø mm	Braking Direction	Mounting Type	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Range of Service Temperature °C	Standard Stroke mm
DNK-32	Ø32	Two - way	Standard Type FA Type FB Type LB Type CA Type CB Type TC Type	4 ~ 6.5 ( 400 ~ 650 )	-10 ~ 60	25,50,75,100,125, 150,175,200,250, 300,350,400,450, 500
DNK-40	Ø40					
DNK-50	Ø50					
DNK-63	Ø63					
DNK-80	Ø80					
DNK-100	Ø100					

**DNE series END LOCK CYLINDER**

**DNE**



Model	Bore Size Ø mm	Braking Direction	Mounting Type	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Range of Service Temperature °C	Standard Stroke mm
DNE-32	Ø32	Front cover type End cover type	Standard Type FA Type FB Type LB Type CA Type CB Type TC Type	3 ~ 10.3 ( 300 ~ 1030 )	-10 ~ 60	25,50,75,100,125, 150,175,200,250, 300,350,400,450, 500
DNE-40	Ø40					
DNE-50	Ø50					
DNE-63	Ø63					
DNE-80	Ø80					
DNE-100	Ø100					

**DCK2 series CLAMP CYLINDER**  
**DCK2S series CLAMP CYLINDER** ( strong magnet type )

**DCK2/DCK2S**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Operation	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
DCK2 / DCK2S-25	25	24	Double Acting	50 ~ 500	1.5 ~ 10.2 ( 150 ~ 1020 )	50,75,100, 125,150
DCK2 / DCK2S-32	32	40				
DCK2 / DCK2S-40	40	62				
DCK2 / DCK2S-50	50	98				
DCK2 / DCK2S-63	63	155				
DCK2 / DCK2S-80	80	251				

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**DQ series POWER CLAMP CYLINDER**

**DQ**



Model	Bore Size Ø mm	Torque N · m	Operation	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Angle
DQ40	40	110	Double Acting	50 ~ 500	1.5 ~ 6 ( 150 ~ 600 )	30° ~135°
DQ50	50	150				
DQ63	63	380				

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**DCQ series PIN CLAMP CYLINDER**  
**DCQS series PIN CLAMP CYLINDER** ( strong magnet type )

**DCQ/DCQS**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Operation	Mounting Type	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
DCQ-50 DCQS-50	50	82	Double Acting	Parallel Side	100 ~ 500	1 ~ 7 ( 100 ~ 700 )	10

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>



**DC series AIR-OIL CONVERTER**

**DC**



Model	Bore Size Ø mm	Power fluid	Mounting Type	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
DC-40	40	ISO VG32	Flange Type Foot Type	1 ~ 8.5 ( 100 ~ 850 )	50 ~ 500
DC-63	63				
DC-80	80				
DC-100	100				

**DH series BOOSTER**

**DH**



Model	Type	Compressive Pressure Rate	Max. Liquid Pressure Kgf/cm <sup>2</sup> (Kpa)	Output Capacity cc	Range of Service Temperature °C	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Power Fluid
DHA-78	Direct - Compressive Type	7.8 time	53 (5300)	50	+5 ~ 60	2 ~ 7 ( 200 ~ 700 )	ISO VG32
DHA-110		11 time	76 (7600)	120			
DHA-250		25 time	172 (17200)	150			
DHB-78	Pro - Compressive Type	7.8 time	53 (5300)	50			
DHB-110		11 time	76 (7600)	120			
DHB-250		25 time	172 (17200)	150			

**PCB series BOOSTING CYLINDER**

**PCB**



Model	Type	Power Fluid	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Range of Service Temperature °C	Total Stroke (mm)	High Output Stroke (mm)
PCB -1T	Pro - Compressive Type	ISO VG68	2 ~ 7 ( 200 ~ 700 )	-5 ~ 60	50,100,150, 200	5,10,15,20
PCB -3T						
PCB -5T						
PCB -8T						
PCB -10T						

**PCU series BOOSTING CYLINDER**

**PCU**



Model	Type	Power Fluid	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Range of Service Temperature °C	Total Stroke (mm)	High Output Stroke (mm)
PCU -1T	Pro - Compressive Type	ISO VG68	2 ~ 7 ( 200 ~ 700 )	-5 ~ 60	50,100,150, 200	5,10,15,20
PCU -3T						
PCU -5T						
PCU -10T						
PCU -20T						

**PRE series OVAL RODLESS CYLINDER**

**PRE**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
PRE-20	16	10	50 ~ 1000	1.5 ~ 7 ( 150 ~ 700 )	50 ~ 1000
PRE-25	20	15			
PRE-32	25	24			
PRE-40	32	40			50 ~ 1500

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**PRU series RODLESS CYLINDER**

**PRU**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
PRU-16	16	10	50 ~ 500	1.5 ~ 7 ( 150 ~ 700 )	50 ~ 1000
PRU-20	20	15			
PRU-25	25	24			
PRU-32	32	40			
PRU-40	40	62			50 ~ 1500

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**PRF series RODLESS CYLINDER ( Plate Type )**

**PRF**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
PRF-16	16	10	50 ~ 500	1.5 ~ 7 ( 150 ~ 700 )	50 ~ 1000
PRF-20	20	15			
PRF-25	25	24			
PRF-32	32	40			
PRF-40	40	62			50 ~ 1500

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**PRUT series RODLESS CYLINDER ( Linear Guide Type )**

**PRUT**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
PRUT-16	16	10	50 ~ 500	1.5 ~ 7 ( 150 ~ 700 )	50 ~ 1000
PRUT-20	20	15			
PRUT-25	25	24			
PRUT-32	32	40			
PRUT-40	40	62			50 ~ 1500

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**MRD series MAGNETIC RODLESS CYLINDER**

**MRD**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Max. Load Kgf	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
MRD-10	10	4	0.4	50 ~ 500	1.5 ~ 4.5 ( 150 ~ 450 )	100 ~ 300 ( 700 )
MRD-15	15	8	0.8			100 ~ 500 ( 700 )
MRD-20	20	15	1.1		1.5 ~ 6 ( 150 ~ 600 )	100 ~ 800 ( 900 )
MRD-25	25	24	1.2			
MRD-32	32	40	1.5			
MRD-40	40	62	1.9			100 ~ 700 ( 800 )

Note : 1. Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

2. We supply Max. Load details according the stroke based on 300mm · data will be changed according different stroke.

**MRB series MAGNETIC RODLESS CYLINDER ( Side Mount Type )** **MRB**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Max. Load Kgf	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
MRB-10	10	4	0.4	50 ~ 500	1.5 ~ 4.5 ( 150 ~ 450 )	50 ~ 300 ( 300 )
MRB-15	15	8	0.8		50 ~ 500 ( 500 )	
MRB-20	20	15	1.1		50 ~ 500 ( 800 )	
MRB-25	25	24	1.2		1.5 ~ 6 ( 150 ~ 600 )	50 ~ 600 ( 800 )
MRB-32	32	40	1.5			
MRB-40	40	62	1.9			

Note : 1. Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>  
2. We supply Max. Load details according the stroke based on 300mm · data will be changed according different stroke.

**MRU series MAGNETIC RODLESS CYLINDER ( Bushing Type )** **MRU**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Max. Load Kgf	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
MRU-10	10	4	2.8	50 ~ 500	1.5 ~ 4.5 ( 150 ~ 450 )	50 ~ 300 ( 700 )
MRU-15	15	8	6.5		100 ~ 500 ( 700 )	
MRU-20	20	15	11		100 ~ 800 ( 1000 )	
MRU-25	25	24	19		1.5 ~ 6 ( 150 ~ 600 )	100 ~ 800 ( 1200 )
MRU-32	32	40	31			
MRU-40	40	62	48			

Note : 1. Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>  
2. We supply Max. Load details according the stroke based on 300mm · data will be changed according different stroke.

**MRH series MAGNETIC RODLESS CYLINDER ( Linear Bearing Type )** **MRH**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Max. Load Kgf	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
MRH-15	15	8	6.5	50 ~ 500	1.5 ~ 6 ( 150 ~ 600 )	100 ~ 500 ( 700 )
MRH-20	20	15	11			100 ~ 800 ( 1000 )
MRH-25	25	24	19			100 ~ 800 ( 1200 )
MRH-32	32	40	30			

Note : 1. Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>  
2. We supply Max. Load details according the stroke based on 300mm · data will be changed according different stroke.

**MRX series MAGNETIC RODLESS CYLINDER ( Linear Guide Type )** **MRX**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Max. Load Kgf	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
MRX-10	10	4	1.8	50 ~ 500	1.5 ~ 4.5 ( 150 ~ 450 )	50 ~ 300 ( 700 )
MRX-15	15	8	5		50 ~ 500 ( 700 )	
MRX-20	20	15	8		50 ~ 500 ( 800 )	
MRX-25	25	24	11		1.5 ~ 6 ( 150 ~ 600 )	50 ~ 600 ( 800 )

Note : 1. Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>  
2. We supply Max. Load details according the stroke based on 300mm · data will be changed according different stroke.

**MRY series MAGNETIC RODLESS CYLINDER ( Double Linear Guide Type )** **MRY**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Max. Load Kgf	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
MRY-10	10	4	4.2	50 ~ 500	1 ~ 5 ( 100 ~ 500 )	50 ~ 300
MRY-15	15	8	7		50 ~ 500	
MRY-20	20	15	12		50 ~ 500	
MRY-25	25	24	19		1.5 ~ 6 ( 150 ~ 600 )	50 ~ 600

Note : 1. Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>  
2. We supply Max. Load details according the stroke based on 300mm · data will be changed according different stroke.

**MSR(L) series SLIDE TABLE CYLINDER** **MSR(L)**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Max. Load Kgf	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
MSR(L)-10	10	4	0.5	50 ~ 200	1.5 ~ 9 ( 150 ~ 900 )	10,20,30
MSR(L)-16	16	10	1.5			

Note : 1. It uses a precise slide rail guide · low abrasion · fast and accurate driving.  
2. It is available to select right and left type.  
3. Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**MSR(L)2 series SLIDE TABLE CYLINDER** **MSR(L)2**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Operation	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
MSR(L)2-6	6	1.4	Double Acting	50 ~ 200	2 ~ 7 ( 200 ~ 700 )	10,20,30
MSR(L)2-8	8	2.5				
MSR(L)2-10	10	4				
MSR(L)2-12	12	5.6				
MSR(L)2-16	16	10				

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**FMR(L) series SLIDE TABLE CYLINDER** **FMR(L)**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Max. Load Kgf	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
FMR(L)-10	10	4	0.5	100 ~ 500	1.5 ~ 9 ( 150 ~ 900 )	30,50
FMR(L)-16	16	10	1.5			
FMR(L)-20	20	15	2.0			30,50,75,100
FMR(L)-25	25	24	2.5			
FMR(L)-32	32	40	3.5		1 ~ 9 ( 100 ~ 900 )	

Note : 1. It uses a precise slide rail guide · low abrasion · fast and accurate driving.  
2. It is available to select right and left type and adjustable screws device.It is easy to assembly.  
3. It is able to install with shock absorber.  
4. Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**MDQ series DUAL ROD PRECISION CYLINDER** **MDQ**



Model	Bore Size Ø mm	Operation	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
MDQ-08	8	Double Acting	100~500	1~8.5 ( 200~850 )	10 · 20 · 30
MDQ-12	12				40 · 50 · 75

**MDX(L) series SLIDE TABLE CYLINDER** **MDX(L)**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
MDX-6	6	2.8	100 ~ 500	1.5 ~ 7 ( 150 ~ 700 )	10 ~ 50
MDX-8	8	5			10 ~ 75
MDX-12	12	11			10 ~ 100
MDX-16	16	20			10 ~ 125
MDX-20	20	31			10 ~ 150
MDX-25	25	49			

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>



**MBX series PRECISION CYLINDER**

**MBX**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
MBX-6	6	1.4	100 ~ 500	1.5 ~ 7 ( 150 ~ 700 )	5 , 10
MBX-8	8	2.5			10 , 20
MBX-10	10	4			10 , 20
MBX-12	12	5.5			15 , 25
MBX-16	16	10			20 , 30
MBX-20	20	15			25 , 35

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**MGX series DUAL ROD PRECISION CYLINDER**

**MGX**



Model	Bore Size Ø mm	Theoretical Thrust Kgf	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
MGX-8	8	5	100 ~ 500	1.5 ~ 7 ( 150 ~ 700 )	25 ~ 150
MGX-12	12	11			50 ~ 150
MGX-16	16	20			75 ~ 200
MGX-20	20	31			100 ~ 250
MGX-25	25	49			100 ~ 300

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**MQX series COMPACT SLIDE CYLINDER**

**MQX**



Model	Bore Size Ø mm	Theoretical Thrust kgf	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
MQX-6	6	1.4	100 ~ 500	1.5 ~ 7 ( 150 ~ 700 )	5,10,15,20,25,30,40,50,60
MQX-10	10	4.0			
MQX-16	16	10			
MQX-20	20	15			

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**MTX series SLIDE TABLE CYLINDER**

**MTX**



Model	Bore Size Ø mm	Theoretical Thrust kgf	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
MTX-6	6	1.4	100 ~ 500	2 ~ 6 ( 200 ~ 600 )	5,10,15
MTX-8	8	2.5			5,10,15,20
MTX-12	12	5.7			10,20,30

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**TD series DUAL ROD CYLINDER**

**TD**



Model	Bore Size Ø mm	Rod Size Ø mm	Theoretical Thrust kgf	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
TD-6	6	4	2.8	50 ~ 700	1 ~ 8.5 ( 100 ~ 850 )	10 ~ 50
TD-10	10	6	7.8			10 ~ 100
TD-16	16	8	20	100 ~ 500	1 ~ 8.5 ( 100 ~ 850 )	10 ~ 250
TD-20	20	10	31			
TD-25	25	12	49			
TD-32	32	16	80			
TD-40	40	16	124			

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**TDX series DUAL ROD CYLINDER ( Slide Bushing Type )**

**TDX**



Model	Bore Size Ø mm	Rod Size Ø mm	Theoretical Thrust kgf	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
TDX-10	10	6	7.8	100 ~ 500	1 ~ 8.5 ( 100 ~ 850 )	10 ~ 100
TDX-16	16	8	20			
TDX-20	20	10	31			10 ~ 150
TDX-25	25	12	49			

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**TDXU series DUAL ROD CYLINDER ( Ball Bushing Type )**

**TDXU**



Model	Bore Size Ø mm	Rod Size Ø mm	Theoretical Thrust kgf	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
TDXU-16	16	8	20	100 ~ 500	1 ~ 8.5 ( 100 ~ 850 )	10 ~ 150
TDXU-20	20	10	31			
TDXU-25	25	12	49			

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**STU(M) series DUAL ROD SLIDE CYLINDER**

**STU(M)**



Model	Bore Size Ø mm	Rod Size Ø mm	Theoretical Thrust Kgf	Max. Load KGS	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
STU-10	10	6	5.0	0.5	100 ~ 500	1.5 ~ 9 ( 150 ~ 900 )	25 ~ 100
STU-16	16	8	15	1.5			25 ~ 250
STU-20	20	10	23	2.0		1 ~ 9 ( 100 ~ 900 )	25 ~ 250
STU-25	25	12	37	2.5			
STU-32	32	16	60	3.5	50 ~ 170	1.5 ~ 9 ( 150 ~ 900 )	25 ~ 250
STM-16	16	8	15	3			
STM-20	20	10	23	4			
STM-25	25	12	37	5			
STM-32	32	16	60	6			

Note : 1. STU series : Two sides moving ( Body mounted ).  
2. STM series : Body moving ( Two sides mounted ).  
3. Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**STX series DUAL ROD SLIDE CYLINDER**

**STX**



Model	Bore Size Ø mm	Rod Size Ø mm	Theoretical Thrust Kgf	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
STX-10	10	10	5.0	50 ~ 500	1 ~ 7 ( 100 ~ 700 )	10,20,30,40,50,75,100
STX-16	16	16	15			10,20,30,40,50,75,100
STX-20	20	20	23			125,150
STX-25	25	25	37			

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**TB(U)2 series COMPACT GUIDE CYLINDER**

**TB(U)2**



Model	Guide Type	Bore Size Ø mm	Theoretical Thrust Kgf	Non-Rotating Accuracy θ	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
TB2-6	B: Bush Guide (Mild steel rod)	6	1.4	±0.2	50 ~ 500	1.5 ~ 7 (150 ~ 700)	5 ~ 15
TB2-10		10	3.9				5 ~ 20
TB2-12		12	5.7				10 ~ 100
TB2-16		16	10.1	±0.18			25 ~ 200
TB2-20		20	15				
TB2-25		25	24	±0.17			30 ~ 250
TB2-32		32	40				
TB2-40		40	62	±0.16			30 ~ 250
TB2-50		50	98				
TB2-63		63	155	±0.15			30 ~ 150
TB2-80	80	251.2					
TB2-100	100	392.5	±0.1	30 ~ 150			
TU2-12	U: Linear Bearing Guide (Bearing steel rod)	12	5.7	±0.18	150 ~ 600	1.5 ~ 7 (150 ~ 700)	10 ~ 100
TU2-16		16	10.1				25 ~ 200
TU2-20		20	15				±0.17
TU2-25		25	24				
TU2-32		32	40	±0.16			30 ~ 250
TU2-40		40	62				
TU2-50		50	98	±0.15			30 ~ 150
TU2-63		63	155				
TU2-80		80	251.2	±0.1			30 ~ 150
TU2-100		100	392.5				

Note : 1. TB2 is suitable for slow moving , heavy load.  
2. TU2 is suitable for fast moving , lower load.  
3. Theoretical Thrust : When air supply to be 5 Kg/cm<sup>2</sup>.

**TSB(U) series GUIDE SLIDE CYLINDER**

**TSB(U)**



Model	Guide Type	Bore Size Ø mm	Theoretical Thrust Kgf	Non-Rotating Accuracy θ	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
TSB-10	B: Bush Guide (Mild steel rod)	10	3.9	±0.08	50 ~ 500	1.5 ~ 7 (150 ~ 700)	25 ~ 100
TSB-16		16	10				25 ~ 200
TSB-20		20	15				±0.07
TSB-25		25	24				
TSB-32		32	40	±0.06			30 ~ 150
TSB-40		40	62				
TSB-50	50	98	±0.05	30 ~ 150			
TSB-63	63	155					
TSU-10	U: Linear Bearing Guide (Bearing steel rod)	10	3.9	±0.09	150 ~ 600	1 ~ 7 (100 ~ 700)	25 ~ 100
TSU-16		16	10				25 ~ 200
TSU-20		20	15				±0.08
TSU-25		25	24				
TSU-32		32	40	±0.07			30 ~ 150
TSU-40		40	62				
TSU-50	50	98	±0.05	30 ~ 150			
TSU-63	63	155					

Note : 1. Two slides moving (Body mounted) °  
2. TSB is suitable for slow moving , heavy load.  
3. TSU is suitable for fast moving , lower load.  
4. Theoretical Thrust : When air supply to be 5 Kg/cm<sup>2</sup>.

**TXB(U) series GUIDE SLIDE CYLINDER**

**TXB(U)**



Model	Guide Type	Bore Size Ø mm	Theoretical Thrust Kgf	Non-Rotating Accuracy θ	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm	
TXB-16	B: Bush Guide (Mild steel rod)	16	7.5	±0.08	50 ~ 500	1.5 ~ 7 (150 ~ 700)	50 ~ 150	
TXB-20		20	11	±0.07				50 ~ 250
TXB-25		25	18					
TXB-32		32	30	±0.06			50 ~ 150	
TXB-40		40	52					
TXB-50		50	82	±0.05			50 ~ 150	
TXB-63	63	140						
TXU-16	U: Linear Bearing Guide (Bearing steel rod)	16	7.5	±0.09	150 ~ 600	1 ~ 7 (100 ~ 700)	50 ~ 150	
TXU-20		20	11	±0.08				50 ~ 250
TXU-25		25	18					
TXU-32		32	30	±0.07			50 ~ 150	
TXU-40		40	52					
TXU-50		50	82	±0.06			50 ~ 150	
TXU-63	63	140						

Note : 1. Two slides moving (Body mounted) °  
2. TXB is suitable for slow moving , heavy load.  
3. TXU is suitable for fast moving , lower load.  
4. Theoretical Thrust : When air supply to be 5 Kg/cm<sup>2</sup>.

**TMB(U) series GUIDE CYLINDER**

**TMB(U)**



Model	Guide Type	Bore Size Ø mm	Theoretical Thrust Kgf	Non-Rotating Accuracy θ	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
TMB(U)-20	B: Bush Guide (Mild steel rod)	20	15	B : ±0.05° U : ±0.08°	B : 50~500 U : 150~600	1.5 ~ 7 (150 ~ 700)	25 ~ 300 (500)
TMB(U)-25		25	24				
TMB(U)-30	U: Linear Bearing Guide (Bearing steel rod)	30	40	B : ±0.05° U : ±0.08°	B : 50~500 U : 150~600	1.5 ~ 7 (150 ~ 700)	25 ~ 300 (500)
TMB(U)-40		40	62				

Note : 1. Theoretical Thrust : When air supply to be 5 Kg/cm<sup>2</sup>.  
2. (B) Bush guide is suitable for slow moving , heavy load.  
3. (U) Linear bearing guide is suitable for fast moving , lower load.

**GCB(U) series GUIDE CYLINDER**

**GCB(U)**



Model	Guide Type	Bore Size Ø mm	Theoretical Thrust Kgf	Non-Rotating Accuracy θ	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
GCB(U)-20	B: Bush Guide (Mild steel rod)	20	15	B : ±0.03° U : ±0.05°	B : 50~500 U : 150~600	1.5 ~ 7 (150 ~ 700)	25 ~ 300 (500)
GCB(U)-25		25	24				
GCB(U)-30	U: Linear Bearing Guide (Bearing steel rod)	30	40	B : ±0.03° U : ±0.05°	B : 50~500 U : 150~600	1.5 ~ 7 (150 ~ 700)	25 ~ 300 (500)
GCB(U)-40		40	62				

Note : 1. Theoretical Thrust : When air supply to be 5 Kg/cm<sup>2</sup>.  
2. (B) Bush guide is suitable for slow moving , heavy load.  
3. (U) Linear bearing guide is suitable for fast moving , lower load.

**GHB(U) series GUIDE CYLINDER**

**GHB(U)**



Model	Guide Type	Bore Size Ø mm	Theoretical Thrust Kgf	Non-Rotating Accuracy θ	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm	
GHB(U)-20	B: Bush Guide (Mild steel rod)	20	15	B : ±0.03° U : ±0.06°	B : 50~500 U : 150~600	1.5 ~ 7 (100 ~ 700)	25 ~ 300	
GHB(U)-25		25	24					50 ~ 500
GHB(U)-32		32	40					
GHB(U)-40		40	62				±0.06°	50 ~ 500
GHB(U)-50		50	98					
GHB(U)-63		63	155					

Note : 1. Theoretical Thrust : When air supply to be 5 Kg/cm<sup>2</sup>.  
2. (B) Bush guide is suitable for slow moving , heavy load.  
3. (U) Linear bearing guide is suitable for fast moving , lower load.



**TCR series TRIPLE-GUIDE CYLINDER**

**TCR**



Model	Bore Size Ø mm	Guide Type	Theoretical Thrust Kgf	Non-Rotating Accuracy θ	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
TCR-40	40	B : Bush Guide (Mild Steel Rod)	62	B:±0.05° U:±0.08°	50 ~ 300	1 ~ 8 ( 100 ~ 800 )	30 · 50 75 · 100
TCR-63	63	U : Linear Bearing Guide (Bearing Steel Rod)	155				
TCR-80	80		251				

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**TCF series TRIPLE-GUIDE CYLINDER ( Flange Type )**

**TCF**



Model	Bore Size Ø mm	Guide Type	Theoretical Thrust Kgf	Non-Rotating Accuracy θ	Speed Range mm / s	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
TCF-40	40	B : Bush Guide (Mild Steel Rod)	62	B:±0.05° U:±0.08°	50 ~ 300	1 ~ 8 ( 100 ~ 800 )	30 · 50 75 · 100
TCF-63	63	U : Linear Bearing Guide (Bearing Steel Rod)	155				
TCF-80	80		251				

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**RTM series ROTARY CYLINDER**

**RTM**



Model	Rod Size Ø mm	Rotation Angle	Rotary Mounting Method	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Torque N · m
RTM-10	4	90°, 180° ( 270° )	Rod with section	1.5 ~ 7 ( 150 ~ 700 )	0.1
RTM-15	5				0.4
RTM-20	6				0.8
RTM-30	8				1.8
RTM-40	10		3.8		
RTM-50	12		5		
RTM-63	15		10		
RTM-80	17		18		
RTM-100	25		35		
					Rod with keyway

Note : 1. Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>.  
2. 1 N · m = 0.102 kgf · m

**RMF series ROTARY TABLE CYLINDER**

**RMF**



Model	Rod Size Ø mm	Rotation Angle	Rotary Mounting Method	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Torque N · m
RMF-10	4	90°, 180°	Flange type with index (Precision type)	2 ~ 7 ( 200 ~ 700 )	0.14
RMF-15	5			0.38	
RMF-20	6			0.78	
RMF-30	8			1.8	
RMF-40	10			3.8	
RMF-50	12			5	

**RTZB series 3 POSITIONS ROTARY TABLE CYLINDER**

**RTZB**



Model	Rod Size Ø mm	Rotation Angle	Rotary Mounting Method	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Torque N · m
RTZB-10	15	180°	Flange type with index (Precision type)	1.5 ~ 7 ( 150 ~ 700 )	1.5
RTZB-20	18				2.2
RTZB-30	20				3.2
RTZB-50	25				5.5

**RTB,RTBM series ROTARY TABLE CYLINDER**

**RTB / RTBM**



Model	Rod Size Ø mm	Rotation Angle	Rotary Mounting Method	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Torque N · m
RTB-03	10	180°	Flange type with index	1.5 ~ 7 ( 150 ~ 700 )	0.3
RTB-07	12				0.6
RTB-10	15				1.5
RTB-20	18				2.2
RTB-30	20				3.2
RTB-50	25				5.5
RTB-70	28				7.5
RTB-100	32				9.8
RTB-200	40				19
RTB-300	50				31
RTB-500	63	49			
RTBM-10	15	90°, 180°			1.5
RTBM-20	18				2.2
RTBM-30	20				3.2
RTBM-50	25				5.5
RTBM-70	28				7.5
RTBM-100	32				9.8

Note : 1. Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>.  
2. 1 N · m = 0.102 kgf · m

**RTP series ROTARY CYLINDER**

**RTP**



Model	Rod Size Ø mm	Rotation Angle	Rotary Mounting Method	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Torque N · m
RTP-5	16	90°, 180°	Standard : Rod with keyway RTP-5 : Rod with section Rod type Standard : Single rod Rod-2D : Double rod	1.5 ~ 7 ( 150 ~ 700 )	0.4
RTP-10	20				0.9
RTP-20	25				1.9
RTP-30	30				2.9

Note : 1. Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>.  
2. 1 N · m = 0.102 kgf · m

**RTH series ROTARY CYLINDER**

**RTH**



Model	Rod Size Ø mm	Rotation Angle	Rotary Mounting Method	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Torque N · m
RTH-40	40	90°, 180°	Standard : Rod with keyway (Outer ditch) F : Female (Inner ditch)	1.5 ~ 7 ( 150 ~ 700 )	10
RTH-63	63				40
RTH-80	80				60

Note : 1. Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>.  
2. 1 N · m = 0.102 kgf · m

**RTU series HYDRAULIC CYLINDER**

**RTU**



Model	Rod Size Ø mm	Rotation Angle	Rotary Mounting Method	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Torque N · m
RTU-32	24	90°, 180°	Rod with keyway	35 ( 3500 )	12
RTU-40	28				20

Note : 1. Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>.  
2. 1 N · m = 0.102 kgf · m

**SCR(L) series ROTARY CLAMP CYLINDER**

**SCR(L)**



Model	Bore Size Ø mm	Operation	Rotation Angle	Rotating Direction	Rotating Stroke mm	Stroke mm	Theoretical Thrust Kgf (N)	Pressure Range Kgf / cm <sup>2</sup> (Kpa)
SCR(L)-12	12	Double Acting	90°	R : Right L : Left	7.5	10,20	4 (40)	1 ~ 9 ( 100 ~ 900 )
SCR(L)-16	16						7.5 (75)	
SCR(L)-20	20						10 (100)	
SCR(L)-25	25						18 (180)	
SCR(L)-32	32				15		30 (300)	
SCR(L)-40	40						53 (520)	
SCR(L)-50	50						83 (820)	
SCR(L)-63	63						142 (1400)	

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**HER series DOUBLE ROTARY CLAMP CYLINDER**

**HER**



Model	Bore Size Ø mm	Operation	Rotation Angle	Rotating Direction	Rotating Stroke mm	Stroke mm	Theoretical Thrust Kgf (N)	Pressure Range Kgf / cm <sup>2</sup> (Kpa)
HER - 20	20	Double Acting	90°	R : Right L : Left	10	10,20	20 (200)	2 ~ 9 ( 200 ~ 900 )
HER - 25	25						36 (360)	
HER - 32	32						60 (600)	
HER - 40	40						106 (1040)	

Note : 1. Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>.  
2. Theoretical force acts in accordance with same object.  
The theoretical force would be half than originally while acting in accordance with different objec.

**HGR(L) series ROTARY CLAMP CYLINDER**

**HGR(L)**



Model	Bore Size Ø mm	Operation	Rotation Angle	Rotating Direction	Stroke mm	Theoretical Thrust Kgf (N)	Pressure Range Kgf / cm <sup>2</sup> (Kpa)
HGR(L) - 20	20	Double Acting	90°	R : Right L : Left	5	12(120)	1.5 ~ 8 ( 150 ~ 800 )
HGR(L) - 25	25					18(180)	
HGR(L) - 32	32					30(300)	
HGR(L) - 40	40					53(520)	

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**HSR(L) series ROTARY CLAMP CYLINDER ( No Magnet Type )**

**HSR(L)**



Model	Bore Size Ø mm	Operation	Rotation Angle	Rotating Direction	Rotating Stroke mm	Stroke mm	Theoretical Thrust Kgf (N)	Pressure Range Kgf / cm <sup>2</sup> (Kpa)
HSR(L)-25	25	Double Acting	90°	R : Right L : Left	9	13	18 (180)	10 ( 1000 )
HSR(L)-32	32				11	15	30 (300)	
HSR(L)-40	40				53 (520)			
HSR(L)-50	50				83 (820)			
HSR(L)-63	63				142 (1400)			

Note : Theoretical Thrust : When air supply to be 5 Kgf/cm<sup>2</sup>

**HBR(L) series ROTARY CLAMP CYLINDER ( With Magnet Type )**

**HBR(L)**



Model	Bore Size Ø mm	Operation	Rotation Angle	Rotating Direction	Rotating Stroke mm	Stroke mm	Theoretical Thrust Kgf (N)	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	
HBR(L)-20	20	Double Acting	90°	R : Right L : Left	9	13	12 (120)	10 ( 1000 )	
HBR(L)-25	25						20 (200)		
HBR(L)-32	32				36 (360)				
HBR(L)-40	40				63 (630)				
HBR(L)-50	50				11		15		98 (980)
HBR(L)-63	63								168 (1680)
HBR(L)-80	80				13		17		266 (2660)
					15				20

Note : Theoretical Thrust : When air supply to be 6 Kgf/cm<sup>2</sup>

**HFR(L) series ROTARY CLAMP CYLINDER ( With Magnet Type )**

**HFR(L)**



Model	Bore Size Ø mm	Operation	Rotation Angle	Rotating Direction	Rotating Stroke mm	Stroke mm	Theoretical Thrust Kgf (N)	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	
HFR(L)-20	20	Double Acting	90°	R : Right L : Left	9	13	12 (120)	10 ( 1000 )	
HFR(L)-25	25						20 (200)		
HFR(L)-32	32				36 (360)				
HFR(L)-40	40				63 (630)				
HFR(L)-50	50				11		15		98 (980)
HFR(L)-63	63								168 (1680)
HFR(L)-80	80				13		17		266 (2660)
					15				20

Note : Theoretical Thrust : When air supply to be 6 Kgf/cm<sup>2</sup>

**HFK series LEVER CLAMP CYLINDER**

**HFK**



Model	Bore Size Ø mm	Total Stroke mm	Under Pressure Stroke Ø mm	Operation	Theoretical Clamp Force (N)	Pressure Range Kgf / cm <sup>2</sup> (Kpa)
HFK-32	32	23	3	Double Acting	470	2 ~ 7 ( 200 ~ 700 )
HFK-40	40	24.5			570	
HFK-50	50	28.5			855	
HFK-63	63	34			1578	

Note : Theoretical Thrust : When air supply to be 6 Kgf/cm<sup>2</sup>

**HUR(L) series HYDRAULIC ROTARY CLAMP CYLINDER**

**HUR(L)**



Model	Bore Size Ø mm	Operation	Rotation Angle	Rotating Direction	Rotating Stroke mm	Stroke mm	Theoretical Thrust Kgf (N)	Pressure Range Kgf / cm <sup>2</sup> (Kpa)
HUR(L)-25	25	Double Acting	90°	R : Right L : Left	11	11	84 (830)	10 ( 1000 )
HUR(L)-32	32				13	13	175 (1720)	
HUR(L)-40	40				308 (3020)			
HUR(L)-50	50				480 (4710)			
HUR(L)-63	63				769 (7540)			

Note : Theoretical Thrust : When air supply to be 35 Kgf/cm<sup>2</sup>

**HUK series HYDRAULIC LEVER CLAMP CYLINDER**

**HUK**



Model	Bore Size Ø mm	Standard Stroke mm	Theoretical Thrust (N) When 3 MPa	Operation	Manifold Type	Pressure Range Kgf / cm <sup>2</sup> (Kpa)
HUK-25	25	25	1296	Double Acting	None : Standard F : Manifold Type	5 ~ 50 ( 500 ~ 5000 )
HUK-32	32	25	2123			
HUK-40	40	30	3063			
HUK-50	50	35	4531			
HUK-63	63	40	6471			



**HCF series COMPACT HYDRAULIC CYLINDER ( Axial Mounting Type )** **HCF**



Model	Bore Size Ø mm	Theoretical Thrust (KN)When10 MPa	Operation	Mounting Type	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
HCF-20	20	5.0	Double Acting	Front Mount	2 ~ 140 ( 200 ~ 14000 )	10 ~ 40
HCF-25	25	6.0				10 ~ 50
HCF-32	32	7.5				5 ~ 60
HCF-40	40	9.5				5 ~ 80

**HCS series COMPACT HYDRAULIC CYLINDER ( Side Mounting Type )** **HCS**



Model	Bore Size Ø mm	Theoretical Thrust (KN)When10 MPa	Operation	Mounting Type	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
HCS-32	32	7.5	Double Acting	Top Mount	2 ~ 140 ( 200 ~ 14000 )	10,20,30,40,50
HCS-40	40	9.5				
HCS-50	50	14.8				
HCS-63	63	21.5				

**HCQ series COMPACT CYLINDER ( With Magnet Type )** **HCQ**



Model	Bore Size Ø mm	Theoretical Thrust (KN)When10 MPa	Operation	Mounting Type	Pressure Range Kgf / cm <sup>2</sup> (Kpa)	Standard Stroke mm
HCQ-32	32	7.5	Double Acting	Top Mount	70 (7000)	10,20,30,40,50
HCQ-40	40	9.5				
HCQ-50	50	14.8				
HCQ-63	63	21.5				
HCQ-80	80	37.7				

**HN series THREADED BODY HYDRAULIC CYLINDER** **HN**



Model	Rod Size Ø mm	Rod Stroke mm	Theoretical Clip Force		Model Type	Pressure Range Kgf / cm <sup>2</sup> (Kpa)
			100 Kg/cm <sup>2</sup>	500 Kg/cm <sup>2</sup>		
HN □-12	12	10	110	570	HNZ : Female-flush mount	10 ~ 500 ( 100 ~ 5000 )
HN □-16	16	12	200	1010	HNS : Oval head-flush mount	
HN □-20	20	15	310	1570	HNW : Female-flush Hexagon	
HN □-25	25	16	490	2460	HNH : Oval head-Hexagon	

**HS series HYDRAULIC SUPPORT CYLINDER ( Threaded Body Type )** **HS**



Model	Rod Size Ø mm	Rod Stroke mm	Adm. support Force 500 Kg/cm <sup>2</sup>	Operation	Pressure Range Kgf / cm <sup>2</sup> (Kpa)
HSW-16A8	16	8	6.5KN	Single Acting Flush mount-Normal In	50 ~ 5000
HSW-16B8			9.5KN		
HSW-16A15		15	6.5KN		
HSW-16B15			9.5KN		
HSP-16A8	8	8	6.5KN	Single Acting Flush mount-Normal Out	
HSP-16B8			9.5KN		

A large grid area for taking notes or calculations, spanning most of the right page.

CHELIC  
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Gripper

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Accessories

Swivel unit

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and place robot

**HDD series MINI TYPE GRIPPER**

**HDD**



Model	Bore Size Ø mm	Operation	Angle / Bore size	Holding Force Kgf	Holder type	Pressure Range Kgf/cm <sup>2</sup> (Kpa)
HDD-08	8	Single acting normally open(P)	-4.5° ~ 10°	0.8	Shank type Panel Mount type Floating Panel Mount type (Parallel) Floating Panel Mount type (Right Angle) Floating Block type (Parallel) Floating Block type (Right Angle) Flange type (Parallel) Flange type (Right Angle)	2 ~ 7 ( 200 ~ 700 )
		Single acting normally close(C)	∅2 ~ ∅10 mm 3 ~ 9 mm			
HDD-11	11	Single acting normally open(P)	-5.5° ~ 8°	2.0	Shank type Panel Mount type Floating Panel Mount type (Parallel) Floating Panel Mount type (Right Angle) Floating Block type (Parallel) Floating Block type (Right Angle) Flange type (Parallel) Flange type (Right Angle)	2 ~ 7 ( 200 ~ 700 )
		Single acting normally close(C)	∅6 ~ ∅14 mm 6 ~ 14 mm			

Note : The holding point is gripper with arm endtop, when air supply to be 5 Kgf / cm<sup>2</sup>.

**HDS series ANGULAR TYPE GRIPPER**

**HDS**



Model		Bore Size Ø mm	Angle	Holding Force Kgf (N)		Pressure Range Kgf/cm <sup>2</sup> (Kpa)
Double Acting	Single Acting			Open	Close	
HDS-10	HRS-10	10	-10° ~ +30°	0.3 (3.6)	0.2 (2.2)	1.5 ~ 7.0 ( 150 ~ 700 )
HDS-16	HRS-16	16		1.5 (15.2)	1.1 (11.1)	
HDS-20	HRS-20	20		3.2 (31.9)	2.4 (23.6)	
HDS-25	HRS-25	25		6.0 (59.6)	4.8 (47.2)	
HDS-32	HRS-32	32		11.4 (112.4)	8.6 (84.6)	

Note : The holding point is gripper with 20 mm arm, when air supply to be 5 Kgf / cm<sup>2</sup>.

**HDM series 180° ANGULAR TYPE GRIPPER**

**HDM**



Model	Bore Size Ø mm	Operation	Angle	Holding Force Kgf (N)		Pressure Range Kgf/cm <sup>2</sup> (Kpa)
				Open	Close	
HDM-12	12	Double Acting	-1°~+180°	0.75 (7.3)	0.3 (2.9)	1.5 ~ 7.0 ( 150 ~ 700 )
HDM-16	16			1.6 (16.1)	1.2 (11.7)	
HDM-20	20			3.4 (33.8)	2.5 (24.9)	
HDM-25	25			6.4 (63.2)	5.1 (49.9)	
HDM-32	32			12.1 (119)	9.1 (89.6)	

Note : The holding point is gripper with 20 mm arm, when air supply to be 5 Kgf / cm<sup>2</sup>.

**HDP series PARRALLEL TYPE GRIPPER**

**HDP**



Model	Bore Size Ø mm	Operation	Opening Stroke mm	Holding Force Kgf (N)		Pressure Range Kgf/cm <sup>2</sup> (Kpa)
				Open	Close	
HDP-10	10	Double Acting	4	0.5 (4.9)	0.8 (7.8)	1.5 ~ 7.0 ( 150 ~ 700 )
HDP-16	16		8	1.8 (17.6)	2.4 (23.5)	
HDP-20	20		12	3.5 (34.3)	4.7 (46)	
HDP-25	25		14	6.0 (58.8)	7.5 (73.5)	
HDP-32	32		16	8.5 (83.3)	10.0 (98)	

Note : The holding point is gripper with 30 mm arm, when air supply to be 5 Kgf / cm<sup>2</sup>.

**HDPM series PARRALLEL TYPE GRIPPER ( Dustproof Type )**

**HDPM**



Model	Bore Size Ø mm	Operation	Opening Stroke mm	Holding Force Kgf (N)		Pressure Range Kgf/cm <sup>2</sup> (Kpa)
				Open	Close	
HDPM-10	10	Double Acting	4	0.5 (4.9)	0.8 (7.8)	1.5 ~ 7.0 ( 150 ~ 700 )
HDPM-16	16		8	1.8 (17.6)	2.4 (23.5)	
HDPM-20	20		12	3.5 (34.3)	4.7 (46)	
HDPM-25	25		14	6.0 (58.8)	7.5 (73.5)	
HDPM-32	32		16	8.5 (83.3)	10.0 (98)	

Note : The holding point is gripper with 10 mm arm, when air supply to be 5 Kgf / cm<sup>2</sup>.

**HDF series LINEAR GUIDE PARRALLEL TYPE GRIPPER**

**HDF**



Model	Bore Size Ø mm	Operation	Opening Stroke mm	Holding Force Kgf (N)		Pressure Range Kgf/cm <sup>2</sup> (Kpa)
				Open	Close	
HDF-12	12	Double Acting	12,24,48	4.9 (48)	4.9 (48)	1.5 ~ 7.0 ( 150 ~ 700 )
HDF-16	16		16,32,64	9.2 (90)	9.2 (90)	
HDF-20	20		20,40,80	14 (140)	14 (140)	

Note : The holding point is gripper with 10 mm arm, when air supply to be 5 Kgf / cm<sup>2</sup>.

**HDZ / HRZ series LINEAR GUIDE PARRALLEL TYPE GRIPPER**

**HDZ / HRZ**



Model		Bore Size Ø mm	Opening Stroke mm	Holding Force Kgf (N)		Pressure Range Kgf/cm <sup>2</sup> (Kpa)
Double Acting	Single Acting			Open	Close	
HDZ-6	HRZ-6	6	4	0.57 (5.6)	0.3 (3)	Double Acting : 2-7.0 ( 200-700 ) Single Actin : 3.5-7.0 ( 350-700 )
HDZ-10	HRZ-10	10	4	1.84 (18)	1.1 (10.5)	
HDZ-16	HRZ-16	16	6	4.7 (46)	3.3 (32)	Double Acting : 1 ~ 7.0 ( 100 ~ 700 ) Single Actin : 2.5 ~ 7.0 ( 250 ~ 700 )
HDZ-20	HRZ-20	20	10	6.3 (62)	4.2 (41)	
HDZ-25	HRZ-25	25	14	10.2 (100)	6.4 (62.5)	
HDZ-32	HRZ-32	32	22	18.4 (180)	15.9 (155)	
HDZ-40	HRZ-40	40	30	32.7 (320)	26 (255)	

Note : The holding point is gripper with 30 mm arm, when air supply to be 5 Kgf / cm<sup>2</sup>.

**HDZL / HRZL series LINEAR GUIDE PARRALLEL TYPE GRIPPER**

**HDZL / HRZL**

( Long Stroke Type )



Model		Bore Size Ø mm	Opening Stroke mm	Holding Force Kgf (N)		Pressure Range Kgf/cm <sup>2</sup> (Kpa)
Double Acting	Single Acting			Open	Close	
HDZL-10	HRZL-10	10	8	1.7 (17)	1.1 (11)	Double Acting : 2.0-7.0 ( 200-700 ) Single Acting : 3.5-7.0 ( 350-700 )
HDZL-16	HRZL-16	16	12	4.5(45)	3.4 (34)	
HDZL-20	HRZL-20	20	18	6.7 (66)	4.2 (42)	Double Acting : 1-7.0 ( 100-700 ) Single Acting : 2.5-7.0 ( 250-700 )
HDZL-25	HRZL-25	25	22	10.6 (104)	6.4 (65)	

Note : The holding point is gripper with 30 mm arm, when air supply to be 5 Kgf / cm<sup>2</sup>.

**HDZM series LINEAR GUIDE PARRALLEL TYPE GRIPPER ( Dustproof Type )**

**HDZM**



Model	Operation	Bore Size Ø mm	Opening Stroke mm	Holding Force Kgf (N)		Pressure Range Kgf/cm <sup>2</sup> (Kpa)
				Open	Close	
HDZM-6	Double Acting	6	4	0.57 (5.6)	0.3 (3)	Double Acting : 2-7.0 ( 200-700 ) Single Acting : 3.5-7.0 ( 350-700 )
HDZM-10		10	4	1.84 (18)	1.1 (10.5)	
HDZM-16		16	6	4.7 (46)	3.3 (32)	
HDZM-20		20	10	6.3 (62)	4.2 (41)	
HDZM-25		25	14	10.2 (100)	6.4 (62.5)	
HDZM-32		32	22	18.4 (180)	15.9 (155)	
HDZM-40		40	30	32.7 (320)	26 (255)	

Note : The holding point is gripper with 30 mm arm, when air supply to be 5 Kgf / cm<sup>2</sup>.



**HDW series PARRALLEL TYPE GRIPPER ( Strong Type )**

**HDW**



Model	Bore Size Ø mm	Operation	Opening Stroke mm	Holding Force Kgf (N)		Pressure Range Kgf/cm <sup>2</sup> (Kpa)
				Open	Close	
HDW-20	20	Double Acting	8	9.6 (94)	8.6 (84)	1.5 ~ 7.0 ( 150 ~ 700 )
HDW-25	25		11	15.1 (148)	13.7 (134)	
HDW-32	32		16	25 (245)	22.5 (221)	
HDW-40	40		20	46 (451)	41 (402)	
HDW-50	50		26	75.3 (738)	67.5 (662)	
HDW-63	63		32	127 (1245)	114 (1117)	
HDW-80	80		40	163.2 (1600)	153 (1500)	
HDW-100	100		60	234.6 (2300)	229.8 (2252)	

Note : The holding point is gripper with 30 mm arm, when air supply to be 5 Kgf / cm<sup>2</sup>.

**HMW series PARRALLEL TYPE GRIPPER ( Strong Type )**

**HMW**



Model	Bore Size Ø mm	Operation	Operation Stroke mm	Holding Force (N)		Pressure Range Kgf/cm <sup>2</sup> (Kpa)
				External Holding	Internal Gripping	
HMW18	18	Double Acting	2.5	100	120	2 ~ 8 ( 200 ~ 800 )
HMW22	22		4	120	140	
HMW27	27		6	200	250	
HMW34	34		8	400	450	
HMW44	44		10	600	700	
HMW55	55		13	1000	1100	
HMW66	66		16	1600	1700	

**HDG series PARRALLEL TYPE GRIPPER ( Strong Type )**

**HDG**



Model	Bore Size Ø mm	Operation	Operation Stroke mm	Holding Force (N)		Pressure Range Kgf/cm <sup>2</sup> (Kpa)
				External Holding	Internal Gripping	
HDG-50	50	Double Acting	4	170	185	3 ~ 8 ( 300 ~ 800 )
HDG-66	66		6	300	325	
HDG-80	80		8	550	590	
HDG-100	100		10	740	795	
HDG-125	125		12	1290	1370	
HDG-160	160		16	1860	1960	
HDG-200	200		20	3175	3330	
HDG-300	300		30	6675	6830	

**HDL series WIDE TYPE GRIPPER**

**HDL**



Model	Bore Size Ø mm	Operation	Opening Stroke mm	Holding Force Kgf (N)	Pressure Range Kgf/cm <sup>2</sup> (Kpa)
HDL-16	16	Double Acting	12	1.8	2.0 ~ 7.0 ( 200 ~ 700 )
HDL-20	20		14	3	
HDL-25	25		15	6	
HDL-32	32		16	10	

Note : The holding point is gripper with 30 mm arm, when air supply to be 5 Kgf / cm<sup>2</sup>.

**HDT series WIDE TYPE GRIPPER**

**HDT**



Model	Bore Size Ø mm	Operation	Opening Stroke mm	Holding Force Kgf (N)	Pressure Range Kgf/cm <sup>2</sup> (Kpa)
HDT-1020	10	Double Acting	20	1.4 (14)	1.5 ~ 7.0 ( 150 ~ 700 )
HDT-1040			40		
HDT-1060			60		
HDT-1630	16		30	4.5 (44)	
HDT-1660			60		
HDT-1680			80		
HDT-2040	20		40	7.4 (73)	
HDT-2080			80		
HDT-20100			100		
HDT-2550	25		50	13.1 (128)	
HDT-25100			100		
HDT-25120			120		
HDT-3270	32	70	23.2 (228)		
HDT-32120		120			
HDT-32160		160			
HDT-40100	40	100	40 (396)		
HDT-40160		160			
HDT-40200		200			

Note : The holding point is gripper with 30 mm arm, when air supply to be 5 Kgf / cm<sup>2</sup>.

**HDQ2 / HDQ3 / HDQ4 series ROUND BODY GRIPPER**

**HDQ**

( 2/3/4 Finger )



Model	Bore Size Ø mm	Operation	Opening Stroke mm	Holding Force Kgf (N)		Pressure Range Kgf/cm <sup>2</sup> (Kpa)
				External gripping	Internal gripping	
HDQ2-25	25	Double Acting	6	63	71	1.5 ~ 7.0 ( 150 ~ 700 )
HDQ2-32	32		8	111	123	
HDQ2-40	40		8	177	195	
HDQ2-50	50		12	280	306	
HDQ2-63	63		16	502	537	
HDQ2-80	80		20	710	748	
HDQ2-100	100		24	1068	1111	
HDQ3-25	25		6	30	35	
HDQ3-32	32		8	70	82	
HDQ3-40	40		8	131	149	
HDQ3-50	50		12	282	314	
HDQ3-63	63		16	446	496	
HDQ3-80	80		20	578	641	
HDQ3-100	100		24	946	1009	
HDQ4-25	25		6	31	35	
HDQ4-32	32		8	55	61	
HDQ4-40	40		8	88	97	
HDQ4-50	50		12	140	153	
HDQ4-63	63	16	251	268		
HDQ4-80	80	20	355	374		
HDQ4-100	100	24	534	555		

Note : The holding force is gripper with 30 mm arm, when air supply to be 5 Kgf / cm<sup>2</sup>.

**HMQ series 2 FINGER GRIPPER**

**HMQ**



Model	Bore Size Ø mm	Operation	Opening Stroke mm	Holding Force Kgf (N)		Pressure Range Kgf/cm <sup>2</sup> (Kpa)
				External Holding	Internal Holding	
HMQ25	25	Double Acting	4	147	164	2 ~ 8 ( 200 ~ 800 )
HMQ32	32		6	243	269	
HMQ44	44		8	471	509	
HMQ55	55		10	796	745	
HMQ70	70		12	1223	1290	
HMQ92	92		16	2123	2229	

**RMT series 180° REVERSING CLAMPING CYLINDER**

**RMT**



Model	Gripper Type	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Temp °C	Lubricate	Port Size		Rotary cushion
					Rotary cyl.	Gripper	
RMT-25	HDQ、HMQ、MDW	4.5 ~ 7 ( 450 ~ 700 )	5~60	Free	M5	M5	Oil absorber
RMT-50							

Model	Holding Force Kgf (N)		Fluid Type	Operation		Pressure Range Kgf/cm <sup>2</sup> (Kpa)
	External Holding	Internal Holding		Rotary cyl.	Gripper	
RMT25-Q25	30	35	Air	Double Acting	Double Acting	4.5 ~ 7 ( 450 ~ 700 )
RMT25-Q32	70	82				
RMT25-Q40	131	149				
RMT25-M25	147	164				
RMT25-M32	243	269				
RMT25-M44	471	509				
RMT25-W25	148	134				
RMT25-W32	245	221				
RMT50-Q50	282	314				
RMT50-Q63	446	496				
RMT50-M55	745	796				
RMT50-M70	1223	1290				
RMT50-W40	402	451				
RMT50-W50	662	738				

**RTL series 90° SWIVEL MODULE**

**RTL**



Model	Operation	Fluid Type	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Temp °C	Port Size	Rotary Time (sec / 90°)	Torque (N · m)	Rotation angle	Range of adjustable
RTL-18	Double Acting	Air	1.5 ~ 7 ( 150 ~ 700 )	0~50	M3x0.5P	0.3	0.7xP	90°	±3°
RTL-25					M5x0.8P	0.4	1.9xP		
RTL-32					0.6	4xP			
RTL-40					0.8	7xP			
RTL-50					PT 1/8"	1.0	15xP		

**RMZ series ROTARY GRIPPER**

**RMZ**



Model	Bore Size Ø mm	Operation	Angle mm	Holding Force Kgf (N)		Pressure Range Kgf/cm <sup>2</sup> (Kpa)
				Open	Close	
RMZ-10	10	Double Acting	4	1.84 (18)	1.1 (10.5)	1.5 ~ 7.0 ( 150 ~ 700 )
RMZ-16	16		6	4.7 (46)	3.3 (32)	
RMZ-20	20		10	6.3 (62)	4.2 (41)	
RMZ-25	25		14	10.2 (100)	6.4 (62.5)	

Note : The holding point is gripper with 30 mm arm, when air supply to be 5 Kgf / cm<sup>2</sup>.

**RBZ series ROTARY GRIPPER**

**RBZ**



Model	Bore Size Ø mm	Operation	Angle mm	Holding Force Kgf (N)		Pressure Range Kgf/cm <sup>2</sup> (Kpa)
				Open	Close	
RBZ-10	10	Double Acting	4	1.84 (18)	1.1 (10.5)	1.5 ~ 7.0 ( 150 ~ 700 )
RBZ-16	16		6	4.7 (46)	3.3 (32)	
RBZ-20	20		10	6.3 (62)	4.2 (41)	

Note : The holding point is gripper with 30 mm arm, when air supply to be 5 Kgf / cm<sup>2</sup>.



EV series VACUUM EJECTOR

EV



Model	Nozzle Diameter mm	Vacuum Current L/min (ANR)	Port Size Rc (PT)	Max.Vacuum Degree ( - mmHg )	Remark
EV-05	Ø0.5	10	1/8"	680	-S With switch -K Adjustable
EV-10	Ø1.0	40			
EV-15	Ø1.5	90	1/4"		
EV-20	Ø2.0	110	3/8"		
EV-25	Ø2.5	240	1/2"		
EV-30	Ø3.0	340	3/4"		

EVM series VACUUM EJECTOR ( With Valve Type )

EVM



Model	Nozzle Diameter mm	Vacuum Current L/min (ANR)	Port Size Rc (PT)	Max.Vacuum Degree ( - mmHg )	Remark
EVM-1005	Ø0.5	12	1/8"	690	-S With switch -K Adjustable
EVM-1007	Ø0.7	22			
EVM-1010	Ø1.0	58	1/4"		
EVM-1012	Ø1.2	75	3/8"		
EVM-1515	Ø1.5	115	1/2"		
EVM-2020	Ø2.0	245	3/4"		

VAB series VACUUM EJECTOR

VAB



Model	Tube dia (V)	Tube dia (P)	Nozzle Diameter mm	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Max. Vacuum Degree ( - mmHg )	Vacuum Current L/min (ANR)	Air Consumption L/min (ANR)
VAB-07-04	4	4	0.7	1.5 ~ 7 ( 150 ~ 700 )	700	8	14
VAB-07-06	6	6				14	24
VAB-12-04	4	4	1.2			28	46
VAB-12-06	6	6				38	50
VAB-15-08	8	8	1.5			80	90
VAB-15-10	10	10				86	98

VAS series PRESSURE SWITCH

VAS



Model	Tube dia (V)	Max. Vacuum Degree ( - mmHg )	Remarks
VAS-10-04	4	0 ~ -700	Mechanical type (Hand adjust mounting)
VAS-10-06	6		
VAS-15-08	8		
VAS-15-10	10		

VABS series VACUUM EJECTOR ( With Pressure Switch Type )

VABS



Model	Tube dia (V)	Tube dia (P)	Nozzle Diameter mm	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Max. Vacuum Degree ( - mmHg )	Vacuum Current L/min (ANR)	Air Consumption L/min (ANR)
VABS-07-04	4	4	0.7	1.5 ~ 7 ( 150 ~ 700 )	700	8	14
VABS-07-06	6	6				14	24
VABS-12-04	4	4	1.2			28	46
VABS-12-06	6	6				38	50
VABS-15-08	8	8	1.5			80	90
VABS-15-10	10	10				86	98

VMB series VACUUM EJECTOR ( Fitting Ported Type )

VMB



Model	Tube dia (V)	Thread Rc (PT)	Nozzle Diameter mm	Max.Vacuum Degree ( - mmHg )	Vacuum Current L/min (ANR)
VMB-05-601	6	1/8"	0.5	680	11.5
VMB-07-601			0.7		23
VMB-07-801			0.7		23
VMB-10-601	6	1/4"	1.0		45
VMB-10-801	8		1.5		67.5
VMB-15-802	8		1.5		67.5
VMB-15-102	10	10	1.5	67.5	

VMD series VACUUM EJECTOR ( Fitting Ported Type )

VMD



Model	Tube dia (V)	Thread Rc (PT)	Nozzle Diameter mm	Max.Vacuum Degree ( - mmHg )	Vacuum Current L/min (ANR)
VMD-05-601	6	1/8"	0.5	680	11.5
VMD-07-601			0.7		23
VMD-07-801			0.7		23
VMD-10-601	6	1/4"	1.0		45
VMD-10-801	8		1.5		67.5
VMD-15-802	8		1.5		67.5
VMD-15-102	10	10	1.5	67.5	

VML series VACUUM EJECTOR ( In-line Type )

VML



Model	Tube dia (V)	Tube dia (P)	Nozzle Diameter mm	Max. Vacuum Degree ( - mmHg )	Vacuum Current L/min (ANR)	Air Consumption L/min (ANR)
VML-05-04	4	4	0.5	680	8	14
VML-05-06	6	6				
VML-10-06	8	8	1.0		37	45
VML-10-08			1.0		37	45
VML-15-08	10	10	1.5		90	67.5
VML-15-10			1.5		90	67.5
VML-20-10	10	10	2.0	150	90	
VML-20-12	12	12				

VMK series VACUUM EJECTOR ( In-line Type )

VMK



Model	Tube dia (V)	Tube dia (P)	Nozzle Diameter mm	Max. Vacuum Degree ( - mmHg )	Vacuum Current L/min (ANR)	Air Consumption L/min (ANR)
VMK-05-4M5	4	M5X0.8p	0.5	680	8	14
VMK-05-601	6	1/8"				
VMK-10-601	8		1/4"		1.0	37
VMK-10-801		1.0			37	45
VMK-15-802	10	3/8"	1.5		90	67.5
VMK-15-103			1.5		90	67.5
VMK-20-103	12	1/2"	2.0	150	90	
VMK-20-124						2.0

VMT series VACUUM EJECTOR ( Body Ported Type )

VMT



Model	Tube dia (V)	Tube dia (P)	Nozzle Diameter mm	Max. Vacuum Degree ( - mmHg )	Vacuum Current L/min (ANR)	Air Consumption L/min (ANR)
VMT-05-04	4	4	0.5	680	8	14
VMT-05-06						
VMT-10-06	6	6	1.0		37	45
VMT-10-08						
VMT-15-08	8	8	1.5		90	67.5
VMT-15-10						
VMT-20-10	10	10	2.0	150	90	
VMT-20-12						2.0

CHERIC Products  
Related Calculation Common Canton  
Air unit  
Valve  
Cylinder  
Gripper  
Vacuum Equipment  
Fitting  
Accessories  
Swivel unit  
Assembly pick and place robot

VMBU series VACUUM EJECTOR ( UNI-Fitting Ported Type )

VMBU



Model	Tube dia (V)	Thread Rc (PT)	Nozzle Diameter mm	Max. Vacuum Degree (- mmHg)	Vacuum Current L/min (ANR)
VMBU-05-601	6	1/8"	0.5	680	11.5
VMBU-07-601			0.7		23
VMBU-07-801	8		0.7		23
VMBU-10-601	6		1.0		45
VMBU-10-801	8	1/4"	1.0	680	45
VMBU-15-802	8		1.5		67.5
VMBU-15-102	10		1.5		67.5

VMDU series VACUUM EJECTOR ( UNI-Fitting Ported Type )

VMDU



Model	Tube dia (V)	Thread Rc (PT)	Nozzle Diameter mm	Max. Vacuum Degree (- mmHg)	Vacuum Current L/min (ANR)
VMDU-05-601	6	1/8"	0.5	680	11.5
VMDU-07-601			0.7		23
VMDU-07-801	8		0.7		23
VMDU-10-601	6		1.0		45
VMDU-10-801	8	1/4"	1.0	680	45
VMDU-15-802	8		1.5		67.5
VMDU-15-102	10		1.5		67.5

VFD series VACUUM FILTER ( Fitting Type )

VFD



Model	Tube dia (V)(P)	Tube dia (EX)	Reference Flow L/min (ANR)	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Filter Grade μ
VFD-01-04	4	4	10	-1 (-100)	10 μ
VFD-02-04			10		
VFD-02-06	6	6	20		
VFD-03-06			30		
VFD-03-08	8	8	50		
VFD-03-10	10	10	60		
VFD-04-10			75		
VFD-04-12	12	12	100		

VFM series VACUUM FILTER

VFM



Model	Port Size Rc (PT)	Filter Grade μ	Reference Flow L/min (ANR)	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Remarks
VFM-200	- 01 1/8"	40 μm	100	0.0 ~ -101.3	1. Without bowl gaud 2. Mounting bracket(option)
	- 02 1/4"				
VFM-300	- 02 1/4"		200		
	- 03 3/8"				
VFM-400	- 03 3/8"		300		
	- 04 1/2"				
VFM-450	- 04 1/2"	400			
	- 06 3/4"				
VFM-500	- 04 3/4"	400			
	- 06 1"				

VFU series VACUUM FILTER ( UNI-Fitting Type )

VFU



Model	Tube dia (V)(P)	Tube dia (EX)	Reference Flow L/min (ANR)	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Filter Grade μ
VFU-01-04	Ø4	Ø4	10	-1 (-100 ~ 0)	30μ
VFU-01-06	Ø6	Ø6	20		
VFU-02-06			30		
VFU-02-08	Ø8	Ø8	50		
VFU-03-08			75		
VFU-03-10	Ø10	Ø10	75		

ERV series VACUUM REGULATOR

ERV



Model	Port Size Rc (PT)	Pressure Range Kpa ( mmHg )	Air Consumption L / min	Service Temperature	Gauge
ERV-200	1/8" · 1/4"	-98.6 ~ -1 Kpa (-740 ~ -7.5)	0.6 L/min (ANR) or less	5 ~ 60°C	VG - 10A

VK20B series VACUUM EJECTOR

VK20B



Model	Tube dia (V)	Tube dia (P)	Nozzie Diameter mm	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Max. Vacuum (- mmHg)	Vacuum Current L/min (ANR)	Air Consumption L/min (ANR)
VK20B-05-06	Ø6	Ø6	0.5	2.5 ~ 7 (250 ~ 700)	690	6	15
VK20B-07-06			0.7			12	25
VK20B-10-06			1.0			26	53

VK20S series VACUUM EJECTOR ( Digital / Analog Pressure Switch )

VK20S



Model	Tube dia (V)	Tube dia (P)	Nozzie Diameter mm	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Max. Vacuum (- mmHg)	Vacuum Current L/min (ANR)	Air Consumption L/min (ANR)
VK20S-05-06	Ø6	Ø6	0.5	2.5 ~ 7 (250 ~ 700)	690	6	15
VK20S-07-06			0.7			12	25
VK20S-10-06			1.0			26	53

VK20T series VACUUM EJECTOR

VK20T



Model	Tube dia (V)	Tube dia (P)	Nozzie Diameter mm	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Max. Vacuum (- mmHg)	Vacuum Current L/min (ANR)	Air Consumption L/min (ANR)
VK20T-05-06	Ø6	Ø6	0.5	2.5 ~ 7 (250 ~ 700)	690	6	15
VK20T-07-06			0.7			12	25
VK20T-10-06			1.0			26	53

VK20ST series VACUUM EJECTOR ( Digital / Analog Pressure Switch )

VK20ST



Model	Tube dia (V)	Tube dia (P)	Nozzie Diameter mm	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Max. Vacuum (- mmHg)	Vacuum Current L/min (ANR)	Air Consumption L/min (ANR)
VK20ST-05-06	Ø6	Ø6	0.5	2.5 ~ 7 (250 ~ 700)	690	6	15
VK20ST-07-06			0.7			12	25
VK20ST-10-06			1.0			26	53

VK30T series VACUUM EJECTOR ( Large Flow )

VK30T



Model	Tube dia (V)	Tube dia (P)	Nozzie Diameter mm	Pressure Range Kgf/cm <sup>2</sup> (Kpa)	Max. Vacuum (- mmHg)	Vacuum Current L/min (ANR)	Air Consumption L/min (ANR)
VK30T-20-10	Ø10	Ø10	2.0	2.5 ~ 7 (250 ~ 700)	690	61	220



VK30ST series VACUUM EJECTOR ( Large Flow )

VK30ST



Model	Tube dia (V)	Tube dia (P)	Nozzie Diameter mm	Pressure Range Kg/cm <sup>2</sup> (Kpa)	Max. Vacuum (- mmHg)	Vacuum Current L/min (ANR)	Air Consumption L/min (ANR)
VK30ST-20-10	Ø10	Ø10	2.0	2.5 ~ 7 ( 250 ~ 700 )	690	61	220

VQ20B series VACUUM EJECTOR ( Energy Saving )

VQ20B



Model	Tube dia (V)	Tube dia (P)	Nozzie Diameter mm	Pressure Range Kg/cm <sup>2</sup> (Kpa)	Max. Vacuum (- mmHg)	Range Of Energy Saving (- mmHg)	Vacuum Current L/min (ANR)	Air Consumption L/min (ANR)
VQ20B-10-06	Ø6	Ø6	1.0	4 ~ 7 ( 400 ~ 700 )	690	350~600	26	53

VQ20S series VACUUM EJECTOR ( Energy Saving )

VQ20S



Model	Tube dia (V)	Tube dia (P)	Nozzie Diameter mm	Pressure Range Kg/cm <sup>2</sup> (Kpa)	Max. Vacuum (- mmHg)	Range Of Energy Saving (- mmHg)	Vacuum Current L/min (ANR)	Air Consumption L/min (ANR)
VQ20S-10-06	Ø6	Ø6	1.0	4 ~ 7 ( 400 ~ 700 )	690	350~600	26	53

VQ20T series VACUUM EJECTOR ( Energy Saving )

VQ20T



Model	Tube dia (V)	Tube dia (P)	Nozzie Diameter mm	Pressure Range Kg/cm <sup>2</sup> (Kpa)	Max. Vacuum (- mmHg)	Range Of Energy Saving (- mmHg)	Vacuum Current L/min (ANR)	Air Consumption L/min (ANR)
VQ20T-10-06	Ø6	Ø6	1.0	4 ~ 7 ( 400 ~ 700 )	690	350~600	26	53

VQ20ST series VACUUM EJECTOR ( Energy Saving )

VQ20ST



Model	Tube dia (V)	Tube dia (P)	Nozzie Diameter mm	Pressure Range Kg/cm <sup>2</sup> (Kpa)	Max. Vacuum (- mmHg)	Range Of Energy Saving (- mmHg)	Vacuum Current L/min (ANR)	Air Consumption L/min (ANR)
VQ20ST-10-06	Ø6	Ø6	1.0	4 ~ 7 ( 400 ~ 700 )	690	350~600	26	53

MVS series VACUUM CYLINDER

MVS



Model	Rod Size ø mm	Theoretical Thrust Kg Push	Theoretical Thrust Kg Pull	Operation	Pad Size	Cushion Stroke mm	Pressure Range Kg/cm <sup>2</sup> (Kpa)	Fluid Type	Standard Stroke mm	Temp °C	Port Size
MVS-06	6	1.4	1.05	Double Action	PA-02-15	3	1~7 (100~700)	Air	10	5~60	M3
MVS-10	10	3.9	3.25						10		
									15		

PAF series VACUUM PAD ( Vertical Vacuum Entry )

PAF



Model	Connection Type	Pad Diameter	Material
PAF	Vertical Connection	Ø2 ~ Ø100	NBR Rubber Silicon Rubber PU Rubber
		Ø2 ~ Ø60	SE Anti-Static Rubber E Low Resistance & Anti-Static Rubber

PAK series VACUUM PAD ( Vertical Vacuum Entry with One-touch Fitting )

PAK



Model	Connection Type	Pad Diameter	Material
PAK	Vertical Connection	Ø10 ~ Ø80	NBR Rubber Silicon Rubber PU Rubber
		Ø10 ~ Ø60	SE Anti-Static Rubber E Low Resistance & Anti-Static Rubber

PAT series VACUUM PAD ( Lateral Vacuum Entry with Barb Fitting )

PAT



Model	Connection Type	Pad Diameter	Material
PAT	Lateral Connection	Ø2 ~ Ø200	NBR Rubber Silicon Rubber PU Rubber
		Ø2 ~ Ø60	SE Anti-Static Rubber E Low Resistance & Anti-Static Rubber

PAFS series VACUUM PAD ( Vertical Vacuum Entry With Buffer )

PAFS



Model	Connection Type	Pad Diameter	Material
PAFS	Vertical Connection (With spring)	Ø2 ~ Ø50	NBR Rubber Silicon Rubber PU Rubber SE Anti-Static Rubber E Low Resistance & Anti-Static Rubber

PATS series VACUUM PAD ( Lateral Vacuum Entry with Barb Fitting & Buffer )

PATS



Model	Connection Type	Pad Diameter	Material
PATS	Lateral Connection (With spring)	Ø2 ~ Ø200	NBR Rubber Silicon Rubber PU Rubber
		Ø2 ~ Ø60	SE Anti-Static Rubber E Low Resistance & Anti-Static Rubber

**PBF series BELLOWS TYPE VACUUM PAD ( Vertical Vacuum Entry ) PBF**



Model	Connection Type	Pad Diameter	Material
PBF	Vertical Connection	Ø10 ~ Ø80	NBR Rubber Silicon Rubber PU Rubber
		Ø10 ~ Ø50	SE Anti-Static Rubber E Low Resistance & Anti-Static Rubber

**PBK series BELLOWS TYPE VACUUM PAD ( Vertical Vacuum Entry with One-touch Fitting ) PBK**



Model	Connection Type	Pad Diameter	Material
PBK	Vertical Connection	Ø10 ~ Ø80	NBR Rubber Silicon Rubber PU Rubber
		Ø10 ~ Ø50	SE Anti-Static Rubber E Low Resistance & Anti-Static Rubber

**PBT series BELLOWS TYPE VACUUM PAD ( Lateral Vacuum Entry with Barb Fitting ) PBT**



Model	Connection Type	Pad Diameter	Material
PBT	Lateral Connection	Ø10 ~ Ø80	NBR Rubber Silicon Rubber PU Rubber
		Ø10 ~ Ø50	SE Anti-Static Rubber E Low Resistance & Anti-Static Rubber

**PBFS series BELLOWS TYPE VACUUM PAD ( Vertical Vacuum Entry With Buffer ) PBFS**



Model	Connection Type	Pad Diameter	Material
PBFS	Vertical Connection (With spring)	Ø10 ~ Ø50	NBR Rubber Silicon Rubber PU Rubber SE Anti-Static Rubber E Low Resistance & Anti-Static Rubber

**PBTS series BELLOWS TYPE VACUUM PAD ( Lateral Vacuum Entry with Barb Fitting & Buffer ) PBTS**



Model	Connection Type	Pad Diameter	Material
PBTS	Lateral Connection (With spring)	Ø10 ~ Ø80	NBR Rubber Silicon Rubber PU Rubber
		Ø10 ~ Ø50	SE Anti-Static Rubber E Low Resistance & Anti-Static Rubber

**PCF series BELLOWS TYPE VACUUM PAD ( Vertical Vacuum Entry ) PCF**



Model	Connection Type	Pad Diameter	Material
PCF	Vertical Connection	Ø5 ~ Ø60	NBR Rubber Silicon Rubber PU Rubber
		Ø5 ~ Ø50	SE Anti-Static Rubber E Low Resistance & Anti-Static Rubber

**PCK series BELLOWS TYPE VACUUM PAD ( Vertical Vacuum Entry with One-touch Fitting ) PCK**



Model	Connection Type	Pad Diameter	Material
PCK	Vertical Connection	Ø10 ~ Ø60	NBR Rubber Silicon Rubber PU Rubber
		Ø10 ~ Ø50	SE Anti-Static Rubber E Low Resistance & Anti-Static Rubber

**PCT series BELLOWS TYPE VACUUM PAD ( Lateral Vacuum Entry with Barb Fitting ) PCT**



Model	Connection Type	Pad Diameter	Material
PCT	Lateral Connection	Ø5 ~ Ø60	NBR Rubber Silicon Rubber PU Rubber
		Ø5 ~ Ø50	SE Anti-Static Rubber E Low Resistance & Anti-Static Rubber

**PCFS series BELLOWS TYPE VACUUM PAD ( Vertical Vacuum Entry With Buffer ) PCFS**



Model	Connection Type	Pad Diameter	Material
PCFS	Vertical Connection (With spring)	Ø5 ~ Ø40	NBR Rubber Silicon Rubber PU Rubber SE Anti-Static Rubber E Low Resistance & Anti-Static Rubber

**PCTS series BELLOWS TYPE VACUUM PAD ( Lateral Vacuum Entry with Barb Fitting & Buffer ) PCTS**



Model	Connection Type	Pad Diameter	Material
PCTS	Lateral Connection (With spring)	Ø5 ~ Ø60	NBR Rubber Silicon Rubber PU Rubber
		Ø5 ~ Ø50	SE Anti-Static Rubber E Low Resistance & Anti-Static Rubber

**PS series NON-CONTACT VACUUM PAD PS**



Model	Connection Type	Pad Diameter	Port Size
PS-20	Vertical Connection	Ø20	M3
PS-40		Ø40	M5
PS-60		Ø50	M5

CHERIC Products  
Related Calculation / Common Caution  
Air unit  
Valve  
Cylinder  
Gripper  
Vacuum Equipment  
Fitting  
Accessories  
Swivel unit  
Assembly pick and place robot



P□L series NON-ROTATING VACUUM PAD

P□L



Model	Pad Diameter	Spring Stroke	Connection Type	Pipe Dia.	Material
PAL	Φ5、Φ6、Φ8	6mm	Vertical Connection	Φ6	NBR Rubber Silicon Rubber PU Rubber SE Anti-Static Rubber E Low Resistance & Anti-Static Rubber
	Φ10、Φ15	8mm			
	Φ20-Φ50	13mm			
PBL	Φ10、Φ15	8mm			
	Φ20-Φ50	13mm			
PCL	Φ5、Φ7	6mm			
	Φ10、Φ15	8mm			
	Φ20、Φ30、Φ40	13mm			

P□□-R series VACUUM PAD WITH BALL JOINT

P□□-R



Model	Pad Diameter	Connection Type	Swing Angle	Material
PA□-R	Φ05-Φ15	F : Vertical Connection T : Lateral Connection	30°	NBR Rubber Silicon Rubber PU Rubber SE Anti-Static Rubber E Low Resistance & Anti-Static Rubber
PB□-R	Φ20-Φ50	FS : Vertical Connection ( With Spring ) TS : Lateral Connection ( With Spring )		
PC□-R	Φ60-Φ80	K : Vertical Connection ( With connector )		

MEMO

CHELIC  
Products

Related Calculation  
Common Caution

Air unit

Valve

Cylinder

Gripper

Vacuum  
Equipment

Fitting

Accessories

Swivel unit

Assembly pick  
and place robot

**SQC Straight (Male)**



Thread	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6 Ø8 Ø10 Ø12	5/32 1/4 5/16 3/8 1/2
M5	•	•
1/8	•	•
1/4	•	•
3/8	•	•
1/2	•	•

**SQD Branch Tee**



Thread	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6 Ø8 Ø10 Ø12	5/32 1/4 5/16 3/8 1/2
M5	•	•
1/8	•	•
1/4	•	•
3/8	•	•
1/2	•	•

**SQG Straight (Female)**



Thread	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6 Ø8 Ø10 Ø12	5/32 1/4 5/16 3/8 1/2
M5	•	•
1/8	•	•
1/4	•	•
3/8	•	•
1/2	•	•

**SQU Branch Y**



Thread	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6 Ø8 Ø10 Ø12	5/32 1/4 5/16 3/8 1/2
M5	•	•
1/8	•	•
1/4	•	•
3/8	•	•
1/2	•	•

**SQL Elbow 90°**



Thread	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6 Ø8 Ø10 Ø12	5/32 1/4 5/16 3/8 1/2
M5	•	•
1/8	•	•
1/4	•	•
3/8	•	•
1/2	•	•

**SQH Union Straight**



Tube	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6 Ø8 Ø10 Ø12	5/32 1/4 5/16 3/8 1/2
Ø4	•	5/32
Ø6	•	1/4
Ø8	•	5/16
Ø10	•	3/8
Ø12	•	1/2

**SQSL Long Elbow**



Thread	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6 Ø8 Ø10 Ø12	5/32 1/4 5/16 3/8 1/2
M5	•	•
1/8	•	•
1/4	•	•
3/8	•	•
1/2	•	•

**SQV Union L**



Tube	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6 Ø8 Ø10 Ø12	5/32 1/4 5/16 3/8 1/2
Ø4	•	5/32
Ø6	•	1/4
Ø8	•	5/16
Ø10	•	3/8
Ø12	•	1/2

**SQM Branch Double Y**



Thread	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6 Ø8 Ø10 Ø12	5/32 1/4 5/16 3/8 1/2
M5	•	•
1/8	•	•
1/4	•	•
3/8	•	•
1/2	•	•

**SQE Union Tee**



Tube	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6 Ø8 Ø10 Ø12	5/32 1/4 5/16 3/8 1/2
Ø4	•	5/32
Ø6	•	1/4
Ø8	•	5/16
Ø10	•	3/8
Ø12	•	1/2

**SQT Branch Tee**



Thread	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6 Ø8 Ø10 Ø12	5/32 1/4 5/16 3/8 1/2
M5	•	•
1/8	•	•
1/4	•	•
3/8	•	•
1/2	•	•

**SQY Union Y**



Tube	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6 Ø8 Ø10 Ø12	5/32 1/4 5/16 3/8 1/2
Ø4	•	5/32
Ø6	•	1/4
Ø8	•	5/16
Ø10	•	3/8
Ø12	•	1/2

**SQX Cross**



Tube	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6 Ø8 Ø10 Ø12	5/32 1/4 5/16 3/8 1/2
Ø4	•	5/32
Ø6	•	1/4
Ø8	•	5/16
Ø10	•	3/8
Ø12	•	1/2

**SQZB Double branch universal male elbow**



Thread	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6 Ø8 Ø10 Ø12	1/4 5/16 3/8
1/8	•	•
1/4	•	•
3/8	•	•
1/2	•	•

**SQF Union**



Tube	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6 Ø8 Ø10 Ø12	5/32 1/4 5/16 3/8 1/2
Ø4	•	5/32
Ø6	•	1/4
Ø8	•	5/16
Ø10	•	3/8
Ø12	•	1/2

**SQZC Triple branch universal male elbow**



Thread	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6 Ø8 Ø10 Ø12	1/4 5/16 3/8
1/8	•	•
1/4	•	•
3/8	•	•
1/2	•	•

**SQFD Union**



Tube	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6 Ø8 Ø10 Ø12	5/32 1/4 5/16 3/8 1/2
Ø4	•	5/32
Ø6	•	1/4
Ø8	•	5/16
Ø10	•	3/8
Ø12	•	1/2

**SQP Female Universal Elbow**



Thread	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6 Ø8 Ø10 Ø12	5/32 1/4 5/16 3/8 1/2
M5	•	•
1/8	•	•
1/4	•	•
3/8	•	•
1/2	•	•

**SQW Branch Union Double Y**



Tube	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6 Ø8 Ø10 Ø12	5/32 1/4 5/16 3/8 1/2
Ø4	•	5/32
Ø6	•	1/4
Ø8	•	5/16
Ø10	•	3/8
Ø12	•	1/2

**SQPB Double branch universal male elbow**



Thread	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6 Ø8 Ø10 Ø12	1/4 5/16 3/8
1/8	•	•
1/4	•	•
3/8	•	•
1/2	•	•

**SQMH Bulkhead Union**



Tube	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6 Ø8 Ø10 Ø12	5/32 1/4 5/16 3/8 1/2
Ø4	•	5/32
Ø6	•	1/4
Ø8	•	5/16
Ø10	•	3/8
Ø12	•	1/2

**SQPC Triple branch universal male elbow**



Thread	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6 Ø8 Ø10 Ø12	1/4 5/16 3/8
1/8	•	•
1/4	•	•
3/8	•	•
1/2	•	•

**SQZ Universal Elbow**



Thread	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6 Ø8 Ø10 Ø12	5/32 1/4 5/16 3/8 1/2
M5	•	•
1/8	•	•
1/4	•	•
3/8	•	•
1/2	•	•

**SQKZ Branch A**



Thread	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6 Ø8 Ø10 Ø12	5/32 1/4 5/16 3/8 1/2
M5	•	•
1/8	•	•
1/4	•	•
3/8	•	•
1/2	•	•



**SQBZ**  
Double branch universal male elbow



Thread	Tube Size					
	MM TYPE			INCH TYPE		
	Ø4	Ø6	Ø8	Ø10	Ø12	
1/8	•	•	•	•	•	•
1/4	•	•	•	•	•	•
3/8	•	•	•	•	•	•
1/2	•	•	•	•	•	•

**SQKU** Union A



Tube	Tube Size					
	MM TYPE			INCH TYPE		
	Ø4	Ø6	Ø8	Ø10	Ø12	
5/32	•	•	•	•	•	•
1/4	•	•	•	•	•	•
5/16	•	•	•	•	•	•
3/8	•	•	•	•	•	•
1/2	•	•	•	•	•	•

**SPF** Different Diam Nipple



Tube	Tube Size					
	MM TYPE			INCH TYPE		
	Ø4	Ø6	Ø8	Ø10	Ø12	
5/32	•	•	•	•	•	•
1/4	•	•	•	•	•	•
5/16	•	•	•	•	•	•
3/8	•	•	•	•	•	•
1/2	•	•	•	•	•	•

**SQRM** Bulkhead Union



Tube	Tube Size					
	MM TYPE			INCH TYPE		
	Ø4	Ø6	Ø8	Ø10	Ø12	
5/32	•	•	•	•	•	•
1/4	•	•	•	•	•	•
5/16	•	•	•	•	•	•
3/8	•	•	•	•	•	•
1/2	•	•	•	•	•	•

**SQCZ**  
Triple branch universal male elbow



Thread	Tube Size					
	MM TYPE			INCH TYPE		
	Ø4	Ø6	Ø8	Ø10	Ø12	
1/8	•	•	•	•	•	•
1/4	•	•	•	•	•	•
3/8	•	•	•	•	•	•
1/2	•	•	•	•	•	•

**SQB** Branch



Tube	Tube Size					
	MM TYPE			INCH TYPE		
	Ø4	Ø6	Ø8	Ø10	Ø12	
5/32	•	•	•	•	•	•
1/4	•	•	•	•	•	•
5/16	•	•	•	•	•	•
3/8	•	•	•	•	•	•
1/2	•	•	•	•	•	•

**SQHJ** Nipple Fitting



Tube	Tube Size					
	MM TYPE			INCH TYPE		
	Ø4	Ø6	Ø8	Ø10	Ø12	
5/32	•	•	•	•	•	•
1/4	•	•	•	•	•	•
5/16	•	•	•	•	•	•
3/8	•	•	•	•	•	•
1/2	•	•	•	•	•	•

**SQCG**  
Pressure Gauge Fitting



Thread	Tube Size					
	MM TYPE			INCH TYPE		
	M5	Ø4	Ø6	Ø8	Ø10	Ø12
1/8	•	•	•	•	•	•
1/4	•	•	•	•	•	•
3/8	•	•	•	•	•	•
1/2	•	•	•	•	•	•

**SQKP** Female Branch A



Thread	Tube Size					
	MM TYPE			INCH TYPE		
	M5	Ø4	Ø6	Ø8	Ø10	Ø12
1/8	•	•	•	•	•	•
1/4	•	•	•	•	•	•
3/8	•	•	•	•	•	•
1/2	•	•	•	•	•	•

**SQCH** Straight Block



Tube	Tube Size					
	MM TYPE			INCH TYPE		
	Ø4	Ø6	Ø8	Ø10	Ø12	
5/32	•	•	•	•	•	•
1/4	•	•	•	•	•	•
5/16	•	•	•	•	•	•
3/8	•	•	•	•	•	•
1/2	•	•	•	•	•	•

**SQLJ** Nipple Elbow Fitting



Tube	Tube Size					
	MM TYPE			INCH TYPE		
	Ø4	Ø6	Ø8	Ø10	Ø12	
5/32	•	•	•	•	•	•
1/4	•	•	•	•	•	•
5/16	•	•	•	•	•	•
3/8	•	•	•	•	•	•
1/2	•	•	•	•	•	•

**SQMG**  
Bulkhead Pressure Gauge Fitting



Tube	Tube Size					
	MM TYPE			INCH TYPE		
	Ø4	Ø6	Ø8	Ø10	Ø12	
5/32	•	•	•	•	•	•
1/4	•	•	•	•	•	•
5/16	•	•	•	•	•	•
3/8	•	•	•	•	•	•
1/2	•	•	•	•	•	•

**SQBP**  
Double branch universal male elbow



Thread	Tube Size					
	MM TYPE			INCH TYPE		
	Ø4	Ø6	Ø8	Ø10	Ø12	
1/8	•	•	•	•	•	•
1/4	•	•	•	•	•	•
3/8	•	•	•	•	•	•
1/2	•	•	•	•	•	•

**SQLH** L Partition Fitting



Tube	Tube Size					
	MM TYPE			INCH TYPE		
	Ø4	Ø6	Ø8	Ø10	Ø12	
5/32	•	•	•	•	•	•
1/4	•	•	•	•	•	•
5/16	•	•	•	•	•	•
3/8	•	•	•	•	•	•
1/2	•	•	•	•	•	•

**SQRC** Straight Check Fitting



Thread	Tube Size					
	MM TYPE			INCH TYPE		
	M5	Ø4	Ø6	Ø8	Ø10	Ø12
1/8	•	•	•	•	•	•
1/4	•	•	•	•	•	•
3/8	•	•	•	•	•	•
1/2	•	•	•	•	•	•

**SQLG**  
Bulkhead Pressure Gauge Fitting



Thread	Tube Size					
	MM TYPE			INCH TYPE		
	M5	Ø4	Ø6	Ø8	Ø10	Ø12
1/8	•	•	•	•	•	•
1/4	•	•	•	•	•	•
3/8	•	•	•	•	•	•
1/2	•	•	•	•	•	•

**SQCP**  
Triple branch universal male elbow



Thread	Tube Size					
	MM TYPE			INCH TYPE		
	Ø4	Ø6	Ø8	Ø10	Ø12	
1/8	•	•	•	•	•	•
1/4	•	•	•	•	•	•
3/8	•	•	•	•	•	•
1/2	•	•	•	•	•	•

**SPG** Plug



Tube	Tube Size					
	MM TYPE			INCH TYPE		
	Ø4	Ø6	Ø8	Ø10	Ø12	
5/32	•	•	•	•	•	•
1/4	•	•	•	•	•	•
5/16	•	•	•	•	•	•
3/8	•	•	•	•	•	•
1/2	•	•	•	•	•	•

**SQRH**  
Union Straight Check Fitting



Tube	Tube Size					
	MM TYPE			INCH TYPE		
	Ø4	Ø6	Ø8	Ø10	Ø12	
5/32	•	•	•	•	•	•
1/4	•	•	•	•	•	•
5/16	•	•	•	•	•	•
3/8	•	•	•	•	•	•
1/2	•	•	•	•	•	•

**SQEG**  
Pressure Gauge Fitting



Tube	Tube Size					
	MM TYPE			INCH TYPE		
	Ø4	Ø6	Ø8	Ø10	Ø12	
5/32	•	•	•	•	•	•
1/4	•	•	•	•	•	•
5/16	•	•	•	•	•	•
3/8	•	•	•	•	•	•
1/2	•	•	•	•	•	•

**SQKX** Branch Elbow



Thread	Tube Size					
	MM TYPE			INCH TYPE		
	M5	Ø4	Ø6	Ø8	Ø10	Ø12
1/8	•	•	•	•	•	•
1/4	•	•	•	•	•	•
3/8	•	•	•	•	•	•
1/2	•	•	•	•	•	•

**SPP** Nipple



Tube	Tube Size					
	MM TYPE			INCH TYPE		
	Ø4	Ø6	Ø8	Ø10	Ø12	
5/32	•	•	•	•	•	•
1/4	•	•	•	•	•	•
5/16	•	•	•	•	•	•
3/8	•	•	•	•	•	•
1/2	•	•	•	•	•	•

**SQRL** Elbow



Thread	Tube Size					
	MM TYPE			INCH TYPE		
	M5	Ø4	Ø6	Ø8	Ø10	Ø12
1/8	•	•	•	•	•	•
1/4	•	•	•	•	•	•
3/8	•	•	•	•	•	•
1/2	•	•	•	•	•	•

**RQL** Elbow



Thread	Tube Size					
	MM TYPE			INCH TYPE		
	M5	Ø4	Ø6	Ø8	Ø10	Ø12
1/8	•	•	•	•	•	•
1/4	•	•	•	•	•	•
3/8	•	•	•	•	•	•
1/2	•	•	•	•	•	•

**QSC** Speed Controller



Thread	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6 Ø8 Ø10 Ø12	5/32 1/4 5/16 3/8 1/2
M5	•	•
1/8	•	•
1/4	•	•
3/8	•	•
1/2	•	•

**QMC** Speed Controller With Matal Body



Tube	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6 Ø8 Ø10 Ø12	5/32 1/4 5/16 3/8 1/2
M5	•	•
1/8	•	•
1/4	•	•
3/8	•	•
1/2	•	•

**QSU** Speed Controller With Universal type



Tube	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6 Ø8 Ø10 Ø12	10/32 1/8 1/4 3/8 1/2
M5	•	•
1/8	•	•
1/4	•	•
3/8	•	•
1/2	•	•

**QHV** Hand Valve



Tube	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6 Ø8 Ø10 Ø12	5/32 1/4 5/16 3/8 1/2
Ø4	•	•
Ø6	•	•
Ø8	•	•
Ø10	•	•
Ø12	•	•

**QSB** Speed Controller - Large Flow Type



Tube	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6 Ø8 Ø10 Ø12	5/32 1/4 5/16 3/8 1/2
1/8	•	•
1/4	•	•
3/8	•	•
1/2	•	•

**QVA** Ball Valve with Fitting Type



Tube	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6 Ø8 Ø10 Ø12	5/32 1/4 5/16 3/8 1/2
Ø4	•	•
Ø6	•	•
Ø8	•	•
Ø10	•	•
Ø12	•	•

**QSS** Speed Controller - Low Flow Type



Tube	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6 Ø8 Ø10	5/32 1/4 5/16 3/8
M5	•	•
1/8	•	•
1/4	•	•

**QVAH** Ball Valve with Fitting/Bulkhead Type



Tube	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6 Ø8 Ø10 Ø12	5/32 1/4 5/16 3/8 1/2
Ø4	•	•
Ø6	•	•
Ø8	•	•
Ø10	•	•
Ø12	•	•

**QSM** Speed Controller - Mini Type



Thread	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6	5/32 1/4
M3	•	•
M5	•	•

**QVAB** Ball Valve with Fitting / Threaded Type



Thread	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6 Ø8 Ø10 Ø12	5/32 1/4 5/16 3/8 1/2
M5	•	•
1/8	•	•
1/4	•	•
3/8	•	•
1/2	•	•

**QSN** Speed Controller - Fitting Type



Tube	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6 Ø8 Ø10 Ø12	5/32 1/4 5/16 3/8 1/2
Ø4	•	•
Ø6	•	•
Ø8	•	•
Ø10	•	•
Ø12	•	•

**QST** Speed Controller - Panel Type



Tube	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6 Ø8 Ø10 Ø12	5/32 1/4 5/16 3/8 1/2
Ø4	•	•
Ø6	•	•
Ø8	•	•
Ø10	•	•
Ø12	•	•

**MSQC** Mini Type Straight (Male)



Thread	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6	5/32
M3	•	•
M5	•	•
1/8	•	•

**MSQH** Union



Tube	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6	5/32
Ø3	•	•
Ø4	•	•
Ø6	•	•

**MSQL** Mini Type Elbow 90°



Thread	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6	5/32
M3	•	•
M5	•	•
1/8	•	•

**MSQR** Threaded Type Union



Tube	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6	5/32
Ø3	•	•
Ø4	•	•
Ø6	•	•

**MSQE** Mini Type Union Tee



Tube	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6	5/32
Ø3	•	•
Ø4	•	•
Ø6	•	•

**MSQB** Rounded Straight (Male)



Thread	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6	5/32
M3	•	•
M5	•	•
1/8	•	•

**MSQT** Mini Type Union Tee



Thread	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6	5/32
M3	•	•
M5	•	•
1/8	•	•

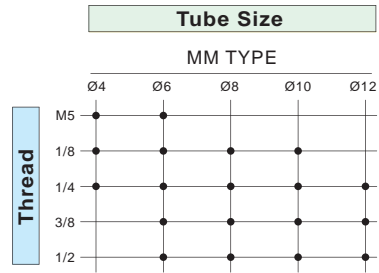
**MSQJ** 45° Fitting



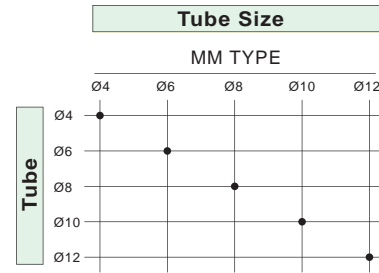
Thread	Tube Size	
	MM TYPE	INCH TYPE
	Ø4 Ø6	5/32
M3	•	•
M5	•	•
1/8	•	•



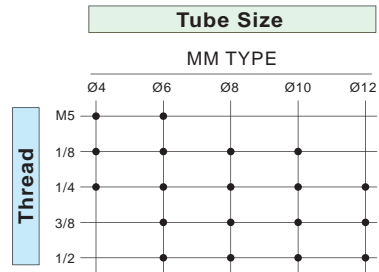
**MPC Straight**



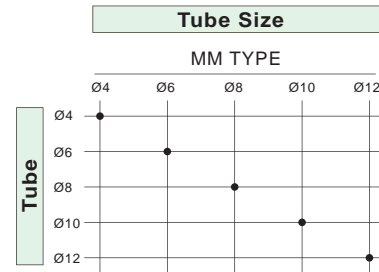
**MPV Elbow**



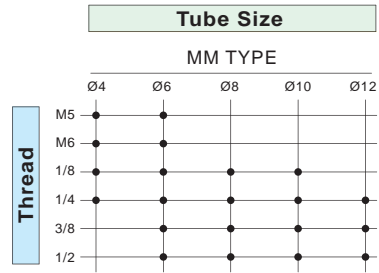
**MPCF Straight**



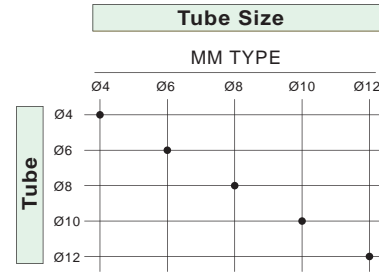
**MPE Branch Tee**



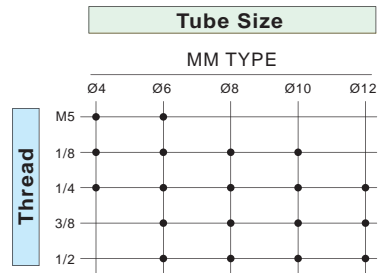
**MPL Elbow**



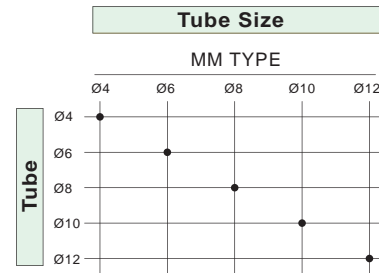
**MPZ Cross**



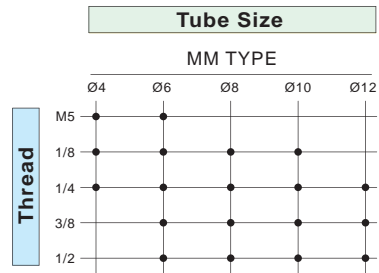
**MPB Branch Tee**



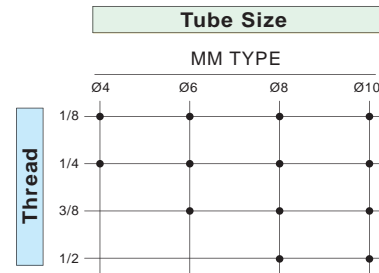
**MPM Union**



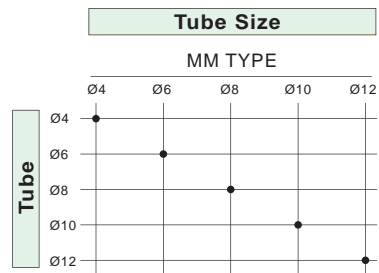
**MPD Branch Tee**



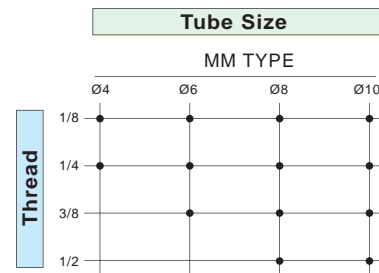
**MPH Hex**



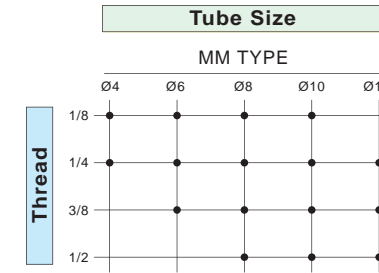
**MPU Straight**



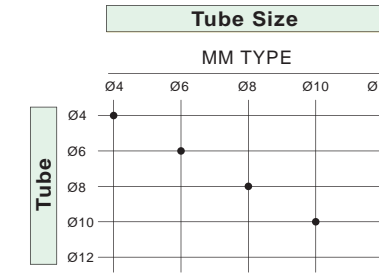
**MSC Tube Fitting**



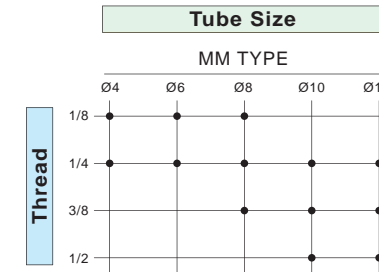
**MPMF Straight**



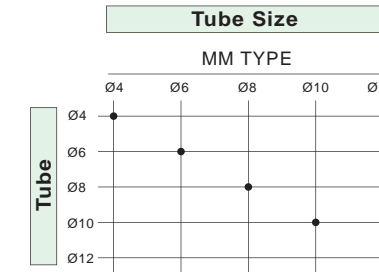
**PPU Straight**



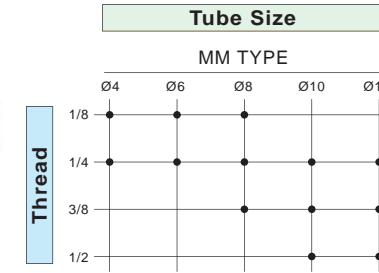
**PPL Elbow**



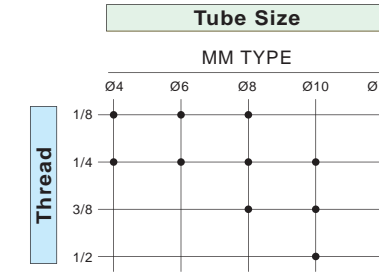
**PPE Branch Tee**



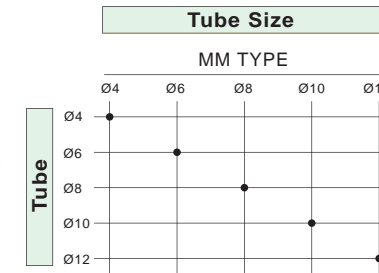
**PPB Branch Tee**



**PPD Branch Tee**



**PPV Elbow**



**FITTING**

STAINLESS FITTING SERIES

<p><b>MC</b> Barb Fitting</p>  <p>SS304</p>	<p><b>ML</b> Barb Elbow</p>  <p>SS304</p>	<p><b>MT</b> Barb Tee</p>  <p>SS304</p>	<p><b>CVFC</b> Hose Nipple</p>  <p>SS304</p>
<p><b>CVMC</b> Hose Nipple</p>  <p>SS304</p>	<p><b>CVME</b> Hose Elbow</p>  <p>SS304</p>	<p><b>CVU</b> Hose Nipple</p>  <p>SS304</p>	<p><b>CVUE</b> Hose Elbow</p>  <p>SS304</p>
<p><b>CVUT</b> Union Tee</p>  <p>SS304</p>	<p><b>CPFC</b> Female Connector</p>  <p>SS304</p>	<p><b>CPMC</b> Hexagon Socket Head Male Connector</p>  <p>SS304</p>	<p><b>CPME</b> Male Elbow</p>  <p>SS304</p>
<p><b>CPU</b> Straight Union</p>  <p>SS304</p>	<p><b>CPUE</b> Union Elbow</p>  <p>SS304</p>	<p><b>CPUT</b> Union Tee</p>  <p>SS304</p>	<p><b>CCF</b> Hose Nipple</p>  <p>SS316</p>
<p><b>CMC</b> Hose Nipple</p>  <p>SS316</p>	<p><b>CME</b> Hose Elbow</p>  <p>SS316</p>	<p><b>CVU2</b> Hose Nipple</p>  <p>SS316</p>	<p><b>CUT</b> Union Tee</p>  <p>SS316</p>

**FITTING**

STAINLESS FITTING SERIES

<p><b>CUE</b> Hose Elbow</p>  <p>SS316</p>	<p><b>CBU</b> Hose Nipple</p>  <p>SS316</p>	<p><b>CRU</b> Hose Nipple Different Diameter</p>  <p>SS316</p>	<p><b>N</b> NUT</p>  <p>SS316</p>
<p><b>M</b> PLUG</p>  <p>SS316</p>	<p><b>CAP</b> BODY</p>  <p>SS316</p>	<p><b>FF</b> Axis tube</p>  <p>SS316</p>	<p><b>IN</b> Liner</p>  <p>SS316</p>
<p><b>CVF</b> Female Needle Valve</p>  <p>SS304</p>	<p><b>CVT</b> Tube End Needle Valve</p>  <p>SS304</p>	<p><b>CVM</b> Male Check Valve</p>  <p>SS304</p>	<p><b>CVE</b> Female Check Valve</p>  <p>SS304</p>
<p><b>CVF</b> Female Needle Valve</p>  <p>SS316</p>	<p><b>CBV</b> Tube End Ball Valve</p>  <p>SS316</p>	<p><b>CTSM</b> Quick Coupling</p>  <p>SS304</p>	<p><b>CTSF</b> Quick Coupling</p>  <p>SS304</p>
<p><b>CTSH</b> Quick Coupling</p>  <p>SS304</p>	<p><b>CTPM</b> Quick Coupling</p>  <p>SS304</p>	<p><b>CTPF</b> Quick Coupling</p>  <p>SS304</p>	<p><b>CTPH</b> Quick Coupling</p>  <p>SS304</p>

CHELIC  
Products

Related Calculation  
Common Caution

Air unit

Valve

Cylinder

Gripper

Vacuum  
Equipment

Fitting

Accessories

Swivel unit

Assembly pick  
and place robot



CJ series CYLINDER FLOAT JOINT

CJ



Model	For Cylinder Bore Size mm	Max. Thrust Kgf	Max. Tensile Strength Kgf	Allowable Eccentricity mm	Shaking Angle
CJ-M4X0.7	10	10	400	0.65	± 5°
CJ-M5X0.8	12,16	15	550	1.1	
CJ-M6X1	16,20	18	600	1	
CJ-M8X1	20,25	30	2100	0.75	
CJ-M8X1.25					
CJ-M10X1.25	25,32	75	3200	1	
CJ-M10X1.5					
CJ-M12X1.25	32,40	120	5000	1.15	
CJ-M12X1.5					
CJ-M14X1.5	40,50	200	6400	1.65	
CJ-M16X1.5					
CJ-M18X1.5	50,63	300			
CJ-M20X1.5	63,80	490	11500	2.15	
CJ-M22X1.5					
CJ-M24X1.5	80,100	750	12500	2.65	
CJ-M26X1.5					

Note : Mounting slides are optional.

MAV series MANUALLY OPERATED VALVE

MAV



Model	Port Size Rc (PT)	Thread Type Rc (PT)	Valve Type	Suitable (For F.R.L.)
MAV-01	1/8"	Standard : Two Side Female -B : Input (Female) Output (Male)	To exhaust down stream , when pressure in the off position.	For A , P series F.R.L.
MAV-02	1/4"			For B , P series F.R.L.
MBV-02	1/4"			
MCV-03	3/8"			
MCV-04	1/2"			
MCV-06	3/4"			

SLP series PLASTIC SILENCER

SLP



Model	Port Size Rc (PT)	Material	Noise Reduction Effect dB	Pressure Range Kgf/cm <sup>2</sup> (Kpa)
SLP-01	1/8	Body : Plastic Filter element : Polyethylene Resin	18	0 ~ 9 ( 0 ~ 900 )
SLP-02	1/4			
SLP-02L				
SLP-03	3/8			
SLP-04	1/2			
SLP-06	3/4			
SLP-10	1		34	

SL series BRASS SILENCER

SL



Model	Port Size Rc (PT)	Material	Noise Reduction Effect dB	Pressure Range Kgf/cm <sup>2</sup> (Kpa)
SL-M5	M5	Brass	-	0 ~ 9 ( 0 ~ 900 )
SL-01	1/8		1	
SL-02	1/4		6	
SL-03	3/8		13	
SL-04	1/2		8	
SL-06	3/4		15	

SAC series SHOCK ABSORBER ( Without Cap )

SAC



Model	Stroke Ø mm	Max. Energy Absorption N * m	Max. Impact Force Kg	Allowable Impact Speed (V) m/s	Bore Size mm
SAC - 0806N	6	2	2	1.0	Ø10 ~ Ø16
SAC - 1008N	8	4	4	1.5	
SAC - 1210N	10	5	10		
SAC - 1408N	8	15	50		Ø12 ~ Ø25

SAC series SHOCK ABSORBER

SAC



Model	Stroke Ø mm	Max. Energy Absorption N * m	Max. Impact Force Kg	Allowable Impact Speed (V) m/s	Bore Size mm
SAC - 0806	6	2	2	1.0	Ø10 ~ Ø16
SAC - 1008	8	4	4	1.5	
SAC - 1210	10	5	10		
SAC - 1408	8	15	50		Ø12 ~ Ø25
SAC - 1416	16	20	70	2.0	Ø16 ~ Ø32
SAC - 2020	20	40	200		Ø20 ~ Ø40
SAC - 2050	50	60	400	2.5	Ø25 ~ Ø63
SAC - 2525	25	80	800		Ø25 ~ Ø80
SAC - 2540	40	120	1200		Ø32 ~ Ø100
SAC - 3660	60	250	1500		

SAT series SHOCK ABSORBER

SAT



Model	Stroke Ø mm	Max. Energy Absorption N * m	Max. Impact Force Kg	Allowable Impact Speed (V) m/s	Bore Size mm
SAT - 0806 (N)	6	0.3	6	3.0	Ø10 ~ Ø16
SAT - 1007 (N)	7	0.6	12	3.5	
SAT - 1210 (N)	10	1.2	22		Ø10 ~ Ø20
SAT - 1412 (N)	12	2.0	40		Ø12 ~ Ø25
SAT - 2015 (N)	15	6.0	120	3.0	Ø16 ~ Ø32
SAT - 2525 (N)	25	8.2	180	4.5	Ø20 ~ Ø40
SAT - 2725 (N)	25	15.0	270		Ø25 ~ Ø63

SAD series SHOCK ABSORBER

SAD



Model	Stroke Ø mm	Max. Energy Absorption N * m	Max. Impact Force Kg	Allowable Impact Speed (V) m/s	Bore Size mm
SAD - 1410	10	2.04	80	3.0	Ø16 ~ Ø32
SAD - 2016	16	2.55	200	3.5	Ø20 ~ Ø40
SAD - 2525	25	8.7	400		Ø25 ~ Ø63
SAD - 2540	40	10.2	700		Ø25 ~ Ø80
SAD - 3650	50	30.6	1400	3.0	Ø32 ~ Ø100
SAD - 4250	50	51.0	4000	4.5	

SHR series Hydraulic Retarder

SHR



Item Model	Max. Stroke	Operating Temp.	Max. Load	Adjustable Speed Range	Allowable Power
SHR15	15 mm	0 ~ 60 °C	15 ~ 350 kgf	0.5 ~ 30mm/Sec (When load 100kgs)	0.23 Kgf.m
SHR30	30 mm				
SHR60	60 mm				
SHR80	80 mm				
SHR100	100 mm				

CS series SENSOR SWITCH

CS



Model	Voltage V	Current mA	Contact	Range of Service Temp. °C
CS-95	DC.AC. 10 ~ 240	200	Normally Open	-10 ~ 70
CS-95	DC.AC. 10 ~ 150	200	Normally Close	
CS-95N (P)	DC. 5 ~ 30	200	Normally Open	
CS-100 (S)	DC.AC. 5 ~ 240	100		
CS-100N (P)	DC. 5 ~ 30	200		
CS-120	DC.AC. 5 ~ 240	100		
CS-120N (P)	DC. 5 ~ 30	200		
CS-130	DC.AC. 5 ~ 240	100		
CS-130N (P)	DC. 5 ~ 28	50		
CS-30E (F,S)	DC.AC. 5 ~ 240	100		
CS-30EN (EP)	DC. 5 ~ 30	200		
CS-5G	DC. 10 ~ 28	4 ~ 20		Normally Open
CS-5GN (P)	DC. 4.5 ~ 28	50		
CS-8G (B)	DC. 10 ~ 28	4 ~ 20		
CS-8GN (P)	DC. 4.5 ~ 28	50		
CS-9D (B)	DC.AC. 5 ~ 120	100		
CS-9H	DC.AC. 5 ~ 240	100		
CS-9DN (P)	DC. 5 ~ 30	200		
CS-6T (H)	DC.AC. 5 ~ 240	100		
CS-7B	DC. 10 ~ 28	4 ~ 20		
CS-7BN (P)	DC. 5 ~ 28	50		
CS-15T (B)	DC.AC. 5 ~ 120	100	Normally Open	-10 ~ 70
CS-15TN (P)	DC. 5 ~ 30	200		
CS - [32] B	DC.AC. 5 ~ 240	200		
CS - [50] B	DC.AC. 5 ~ 240	200		
CS - [80] B	DC.AC. 5 ~ 240	200		
CS-180	DC. 10 ~ 28	5 ~ 50		
CS-181	DC. 10 ~ 28	5 ~ 50		
CS-190	DC. 10 ~ 28	80		
CS-190N(P)	DC. 10 ~ 28	80		
CS-5BF	DC. 5 ~ 30	50		
CS-5BF-NPN(PNP)	DC. 5 ~ 30	80		
CS-5GF	DC. 5 ~ 30	50		
CS-5GF-NPN(PNP)	DC. 5 ~ 30	80		
CS-7BF	DC. 5 ~ 30	50		
CS-7BF-NPN(PNP)	DC. 5 ~ 30	80		
CS-8GF	DC. 5 ~ 30	50		
CS-8GF-NPN(PNP)	DC. 5 ~ 30	80		
CS-9BF	DC. 5 ~ 110	100		
CS-9DF	DC. 5 ~ 110	100		
CS-210	DC. 5 ~ 240	100		
CS-210K	DC. 5 ~ 30	50		
CS-210N(P)	DC. 5 ~ 30	200		

Note : Custom-made is normally close for N.C. normally close type.

PSS series PRECISION PRESSURE SENSOR

PSS



Model	Pressure Range	Voltage	Fluid Type	Port Size	Analog output
PSS-N-01	0~0.1L/min	DC-24V	空氣	PT 1/4" PF 1/4" NPT 1/4"	DC0.5~4.5V DC4~4.5mA
PSS-N-02	0~0.2L/min				
PSS-N-07	0~0.7L/min				
PSS-N-10	0~1.0L/min				

PS series PRESSURE SWITCH

PS



Model	Voltage	Pressure Range	Output	Response Time	Port Size
PS [N] - 05	12 to 24 VDC (±10%)	-0.1 ~ 1.0 Mpa	NPN	5 ms or less	Ø6,M5,1/8" (G,PT,NPT)
PS [V] - 05		-100 ~ 100 Kpa			
PS [N] - 10		-0.1 ~ 1.0 Mpa			
PS [L] - 10		0 ~ 100 Kpa			
PS [V] - 10		-101 ~ 0 Kpa			
PS [N] - 30		-0.1 ~ 1.0 Mpa			
PS [C] - 30		-100 ~ 100 Kpa			
PS [V] - 30		0 ~ -101 Kpa			
PS [N] - 40		-0.1 ~ 1.0 Mpa			
PS [C] - 40		-100 ~ 100 Kpa			
PS [V] - 40		0 ~ -101 Kpa			
PS [N] - 41		-0.1 ~ 1.0 Mpa	PNP	≤ 2.5 ms Function : 24 ms,192 ms, 768 ms (Option)	M5 , 1/8" (G,PT,NPT)
PS [N] - 42		-100 ~ 100 Kpa			
PS [C] - 42		0 ~ -101 Kpa			
PS [V] - 42		-0.1 ~ 1.0 Mpa			
PS [N] - 43		-100 ~ 100 Kpa			
PS [C] - 43		-101 ~ 101 Kpa			
PS [N] - 46		-0.1 ~ 1.0 Mpa			
PS [C] - 46		-101 ~ 101 Kpa			
PS [N] - 50		-0.1 ~ 1.0 Mpa			
PS [H] - 50	-0.1 ~ 2.0 Mpa				
PS [V] - 50	10 ~ -101.3 Kpa				
PS [C] - 50	-101 ~ 101 Kpa				

PU series PU TUBE

PU



Model	OD x ID (mm)	Standard Length (m)	Min. Bending Radius (mm)	Range of service temp. °C	Pressure Range Kgf/cm <sup>2</sup> (Kpa)
PU0320	3 x 2	200	8	0 ~ 50	0 ~ 10 (0 ~ 1000)
PU0425	4 x 2.5		10		
PU0640	6 x 4		16		
PU0850	8 x 5	100	22		
PU1065	10 x 6.5		28		
PU1280	12 x 8		37		

※ Standard Color : Black · Blue · Transparent · ( Also available in other color ).

PUL series TELESCOPIC TUBE

PUL



Model	OD x ID (mm)	Standard Length (m)	Min. Bending Radius (mm)	Range of service temp. °C	Pressure Range Kgf/cm <sup>2</sup> (Kpa)
PUL0640	6 x 4	6 · 9 · 12 · 15	15	0 ~ 50	0 ~ 10 (0 ~ 1000)
PUL0850	8 x 5	6 · 9 · 12 · 15	15		
PUL1065	10 x 6.5	6 · 9 · 12 · 15	20		
PUL1280	12 x 8	6 · 9 · 12 · 15	30		

※ Standard Color : Orange ( Black · Blue and other color to be customized ).

PN series NYLON TUBE

PN



Model	OD x ID (mm)	Standard Length (m)	Min. Bending Radius (mm)	Range of service temp. °C	Pressure Range Kgf/cm <sup>2</sup>
PN0425	4 x 2.5	200	17	0 ~ 50	< 20
PN0640	6 x 4		37		
PN0860	8 x 6	100	48		
PN1075	10 x 7.5		66		
PN1290	12 x 9		76		

※ Standard Color : Transparent.

CHELIC Products  
 Related Calculation / Common Caution  
 Air unit  
 Valve  
 Cylinder  
 Gripper  
 Vacuum Equipment  
 Fitting  
 Accessories  
 Swivel unit  
 Assembly pick and place robot



APR2 series PICK AND PLACE ROBOT

APR2



Item		Model	APR2 - 50	APR2 - 70	APR2 - 100
Operation			Double Acting		
Fluid			Air		
Pressure Range		Kgf/cm <sup>2</sup> (Kpa)	1.5 ~ 6 ( 150 ~ 600 )		
Max. service pressure		Kgf/cm <sup>2</sup> (Kpa)	7 ( 700 )		
R Axis Rotary cylinder	Model	( mm )	RTBM 50	RTBM 70	RTBM 100
	Torque	( N·m )	5.5	7.5	9.8
X Axis Horizontal moving	Model	( mm )	MDX 12	MDX 16	MDX 20
	Cylinder thrust	( kgf )	13.2	24	37.2
Y Axis Vertical moving	Model	( mm )	MDX 12	MDX 16	MDX 20
	Cylinder thrust	( kgf )	13.2	24	37.2
Z Axis Rotary cylinder	Model	( mm )	RTB 07	RTBM 10	RTBM 20
	Torque	( N·m )	0.6	1.5	2.2
H Axis Gripper	Model	( mm )	HDZ 10	HDZ 16	HDZ 20
			HDP 10	HDP 16	HDP 20
			HDS 10	HDS 16	HDS 20

APL2 series PICK AND PLACE ROBOT

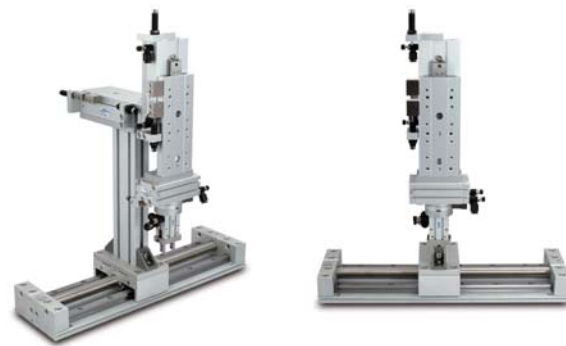
APL2



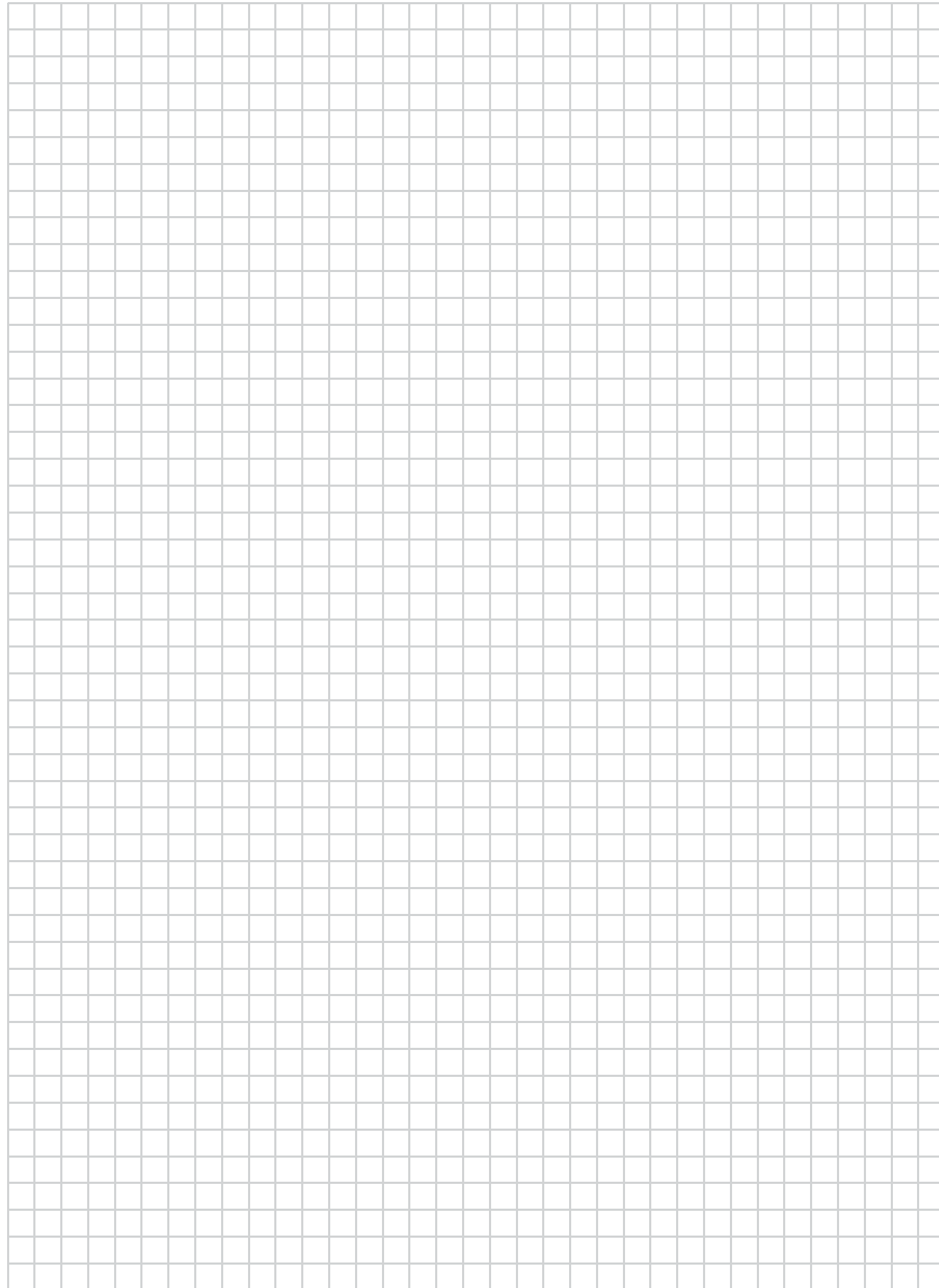
Item		Model	APL2 - 10	APL2 - 15	APL2 - 20
Operation			Double Acting		
Fluid			Air		
Pressure Range		Kgf/cm <sup>2</sup> (Kpa)	1.5 ~ 6 ( 150 ~ 600 )		
Max. service pressure		Kgf/cm <sup>2</sup> (Kpa)	7 ( 700 )		
X Axis Horizontal moving	Model	( mm )	MRX 10	MRX 15	MRX 20
	Cylinder thrust	( kgf )	4.7	10	18
Y Axis Vertical moving	Model	( mm )	MDX 12	MDX 16	MDX 20
	Cylinder thrust	( kgf )	13.2	24	37.2
Z Axis Rotary cylinder	Model	( mm )	RTB 07	RTBM 10	RTBM 20
	Torque	( N·m )	0.6	1.5	2.2
H Axis Gripper	Model	( mm )	HDZ 10	HDZ 16	HDZ 20
			HDP 10	HDP 16	HDP 20
			HDS 10	HDS 16	HDS 20

APS2 series PICK AND PLACE ROBOT

APS2



Item		Model	APS2 - 10	APS2 - 15	APS2 - 20
Operation			Double Acting		
Fluid			Air		
Pressure Range		Kgf/cm <sup>2</sup> (Kpa)	1.5 ~ 6 ( 150 ~ 600 )		
Max. service pressure		Kgf/cm <sup>2</sup> (Kpa)	7 ( 700 )		
R Axis Rotary cylinder	Model	( mm )	MRY 10	MRY 15	MRY 20
	Torque	( N·m )	4.7	10	18
X Axis Horizontal moving	Model	( mm )	MDX 12	MDX 16	MDX 20
	Cylinder thrust	( kgf )	13.2	24	37.2
Y Axis Vertical moving	Model	( mm )	MDX 12	MDX 16	MDX 20
	Cylinder thrust	( kgf )	13.2	24	37.2
Z Axis Rotary cylinder	Model	( mm )	RTB 07	RTBM 10	RTBM 20
	Torque	( N·m )	0.6	1.5	2.2
H Axis Gripper	Model	( mm )	HDZ 10	HDZ 16	HDZ 20
			HDP 10	HDP 16	HDP 20
			HDS 10	HDS 16	HDS 20



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