

5200RA 气动薄膜式角行程执行机构

Rotary Stem Motion Type Pneumatic Diaphragm Actuators

概要

该系列是一种采用多弹簧结构，重量轻、体积小、性能高、出力大的气动薄膜式角行程执行机构。其工作原理为：由调节仪表来的电或气信号经定位器转换而成的气压被输入到膜室内，作用于膜片上产生推力，使推杆移动，同时压缩弹簧直至和弹簧的反作用力相平衡，推杆的直线运动经曲柄机构转换成角行程输出，使输出轴转动到预定的位置。

该系列执行机构与定位器配合使用可实现高精度的位置控制。

GENERAL

This Series features high performance, high power diaphragm actuators of a multi-spring type that are compact and light. With a positioner that receives pneumatic or electric signals, air-pressure is exerted on the diaphragm. Balancing the force of the air-pressured diaphragm and the force of the compressed spring creates a linear motion output. The scotch-yoke system converts the output to a rotating force and provides positioning to a required angle. This Series is designed to function with a positioner except in on-off control.

标准规格 STANDARD SPECIFICATIONS

型 号 Series	5200RA
形 式 Type	多弹簧型 Multi-spring type
尺 寸 Size	218、270、350、450、650
动 作 Function	正作用型 (DA) : 气压增加输出轴向右回转 反作用型 (RA) : 气压增加输出轴向左回转 Direct acting (DA) : Air to clockwise drive shaft rotation. Reverse acting (RA) : Air to counter-clockwise drive shaft rotation.
输出力矩 Output torque	请参见表 1。 See Table 1.
回 转 角 度 Angle rotation	60°
气 源 压 力 Air supply	300、340 KPa G
弹 簧 范 围 Spring range	80 ~ 200 KPa G 120 ~ 300 KPa G 尺寸：仅限于 218、270 Size : 218、270 only
配 管 接 口 Air connection	请参见第 4 ~ 9 页。 See page 4 ~ 9.
性 能 Performance	滞 后 : 带定位器时..... 0.8%FS 以内 带定位器时 (弹簧范围 120 ~ 300)..... 1.0%FS 以内 Hysteresis : Less than 0.8% of Full stroke with positioner. Less than 1.0% of Full stroke with positioner for Spring range 120 ~ 300 KPa G. 直 线 性 : 带定位器时..... ± 1.5%FS 以内 带定位器时 (弹簧范围 120 ~ 300)..... ± 2.0%FS 以内 Linearity : Less than ± 1.5% of Full stroke with positioner. Less than ± 2% of Full stroke with positioner for Spring range 120 ~ 300 KPa G. * 调节阀的滞后和直线性因使用填料材质的不同而有所差异。 * The above hysteresis and linearity vary depending on the gland packing material of the control valves.
环 境 温 度 Ambient temperature	标准型 Standard type..... - 10 ~ + 70 高温型(选购) High temperature service (option)..... 0 ~ + 100 低温型(选购) Low temperature service (option)..... - 40 ~ + 40
材 质 Materials	膜 盖 Diaphragm casing 碳钢 SPHE 膜 片 Diaphragm 三元乙丙胶 EPDM 输 出 轴 Drive shaft 不锈钢 SUS630 支 架 Yoke 球墨铸铁 FCD 连 接 箱 体 Output housing 球墨铸铁 FCD

表面涂层色 Painting color	银灰色 (环氧树脂) Mansell N-6 (Epoxy resin group)
附件 Accessories	E / P 定位器、P / P 定位器、空气过滤减压器、增压器、气控阀、限位开关、电磁阀、锁止阀、调速器、位置发送器等。 E / P Positioner, P / P Positioner, Air-set, Booster relay, Air-valve, Limit switch, Solenoid valve, Lock-valve, Speed controller, Position transmitter, etc.
选购设备 Option	手动操作机构、支架材料、特殊空气配管及特殊气接头、低温环境用、高温环境用、热带地区用、防盐腐蚀型、寒冷地区用、指定涂层色等。 Manual handwheel, Yoke material, Special air piping, Special air fitting, Low temperature service, High temperature service, Tropical area proof, Salty environment proof, Cold area proof, Non-standard painting, etc.

表 1 输出力矩

Table 1 OUTPUT TORQUE

不平衡 Off balance Kpa G	弹簧范围 Spring range Kpa G	动作 Action	气源压力 Air supply Kpa G	输出力矩 OUTPUT TORQUE : N-m				
				执行机构尺寸 Actuator size				
				218	270	350	450L	650L
80	80 ~ 200	DA	300	31.6	79	187	565	1530
	80 ~ 200	RA	300	31.6	79	187	565	1530
120	80 ~ 200	DA	340	47.4	118.6	—	—	—
	120 ~ 300	RA	340	47.4	118.6	—	—	—

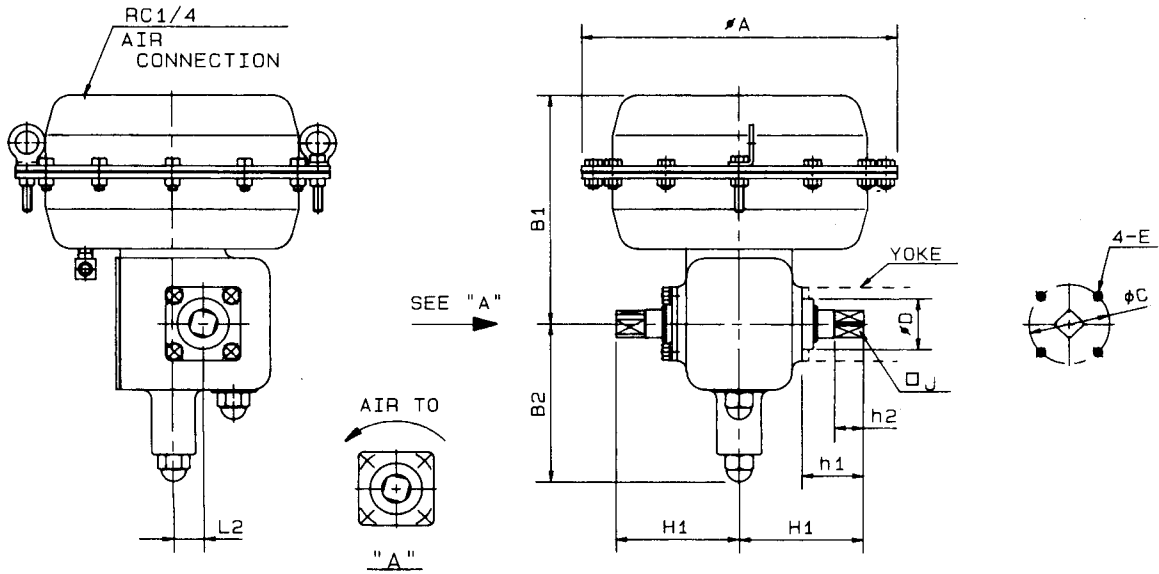
表 2 膜室容量及概重

Table 2 VOLUME AND WEIGHT

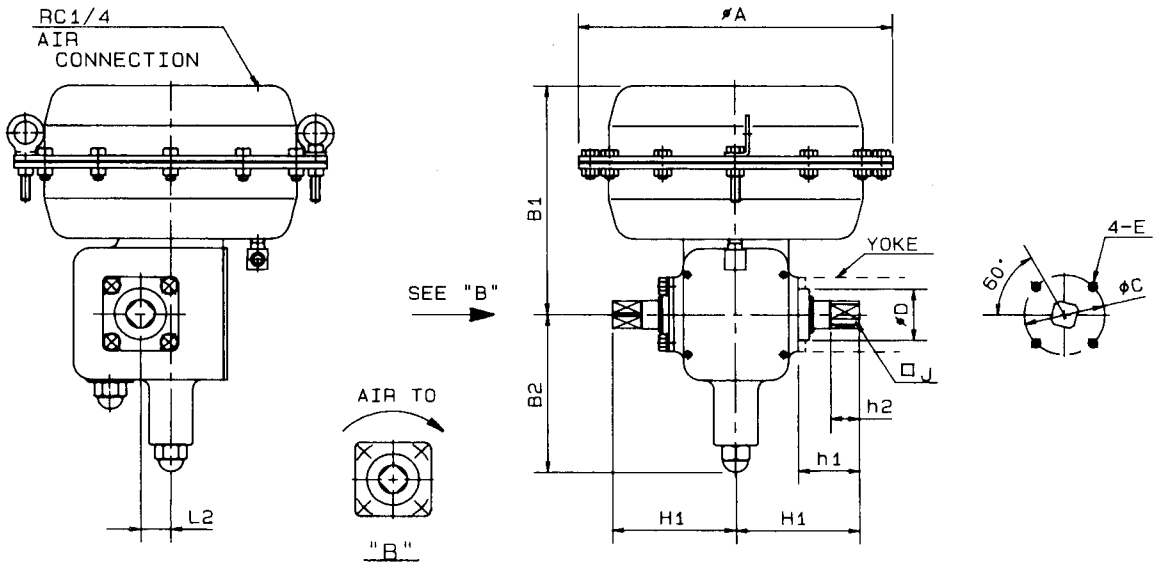
执行机构尺寸 Actuator size	218	270	350	450L	650L
型号 Code No.	5221RA	5227RA	5235RA	524LRA	526LRA
容量 Volume (l)	0.7	1.6	3.3	10	41
重量 Weight (kg)	15	24	50	110	300

DIAPHRAGM ACTUATOR

REVERSE ACTION



DIRECT ACTION



DIMENSIONS

UNIT: mm

SIZE CODE	SIZE A	B1	B2	H1	h1	h2	L2	D	C	J	E
<input type="checkbox"/> 5221RA	218	145	110	86	48	20	18	45	70	12	M8
<input type="checkbox"/> 5227RA	270	205	140	106	53	25	26	45	70	21	M8
<input type="checkbox"/> 5235RA	350	235	155	116	53	25	35	45	70	21	M8

NOTE:

DRAWING No.

E-5200RA-D
R-N

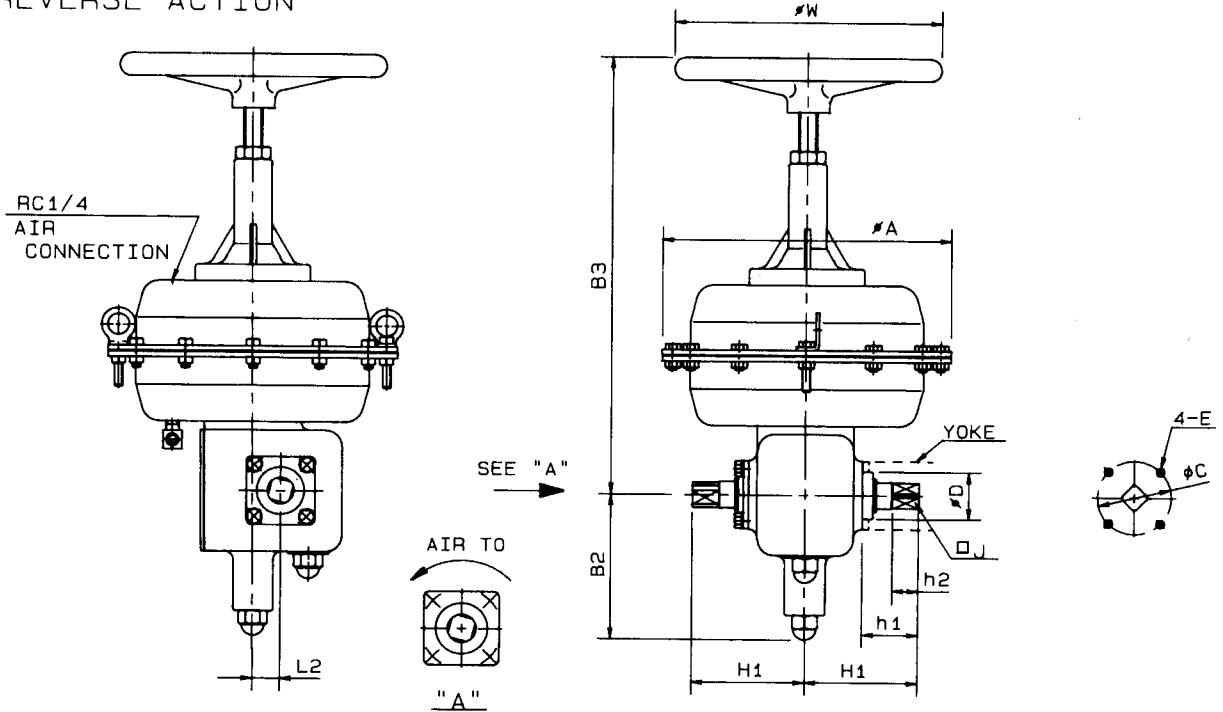
REV

C

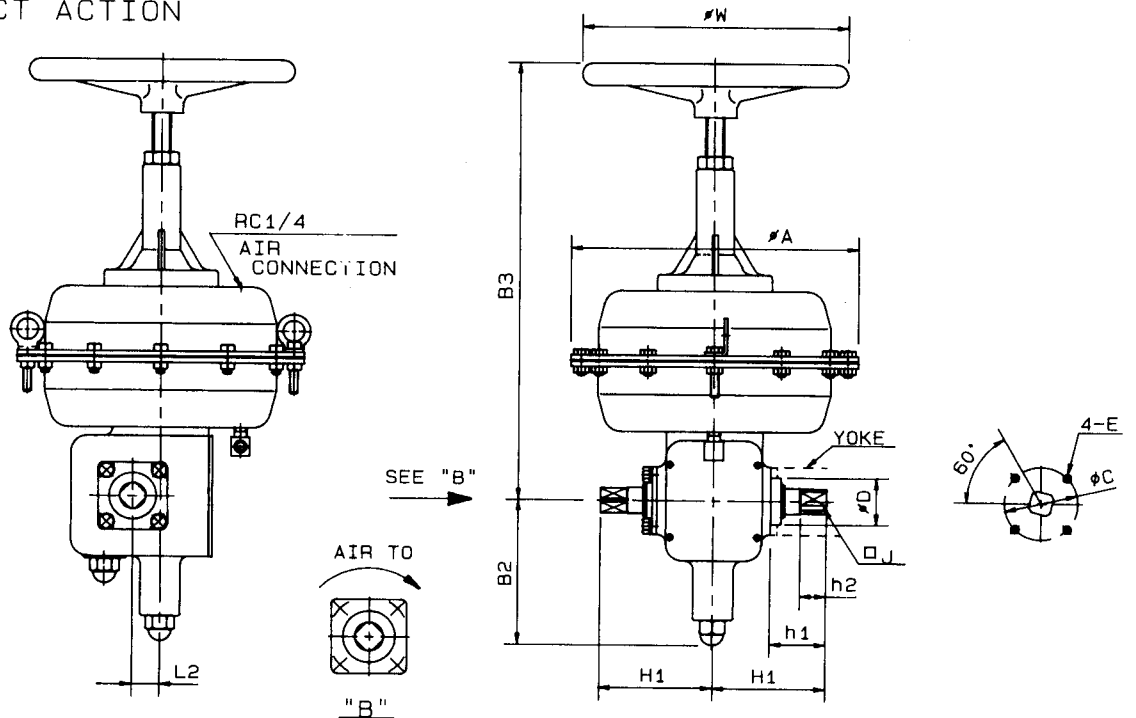
KOSO

DIAPHRAGM ACTUATOR

REVERSE ACTION



DIRECT ACTION



DIMENSIONS

UNIT: mm

SIZE CODE	SIZE	A	B2	H1	h1	h2	L2	D	C	J	E	B3	W
<input type="checkbox"/> 5221RA	218	110	86	48	20	18	45	70	12	M8	325	200	
<input type="checkbox"/> 5227RA	270	140	106	53	25	26	45	70	21	M8	420	250	
<input type="checkbox"/> 5235RA	350	155	116	53	25	35	45	70	21	M8	495	320	

NOTE:

DRAWING No.

E-5200RA-D
R-T

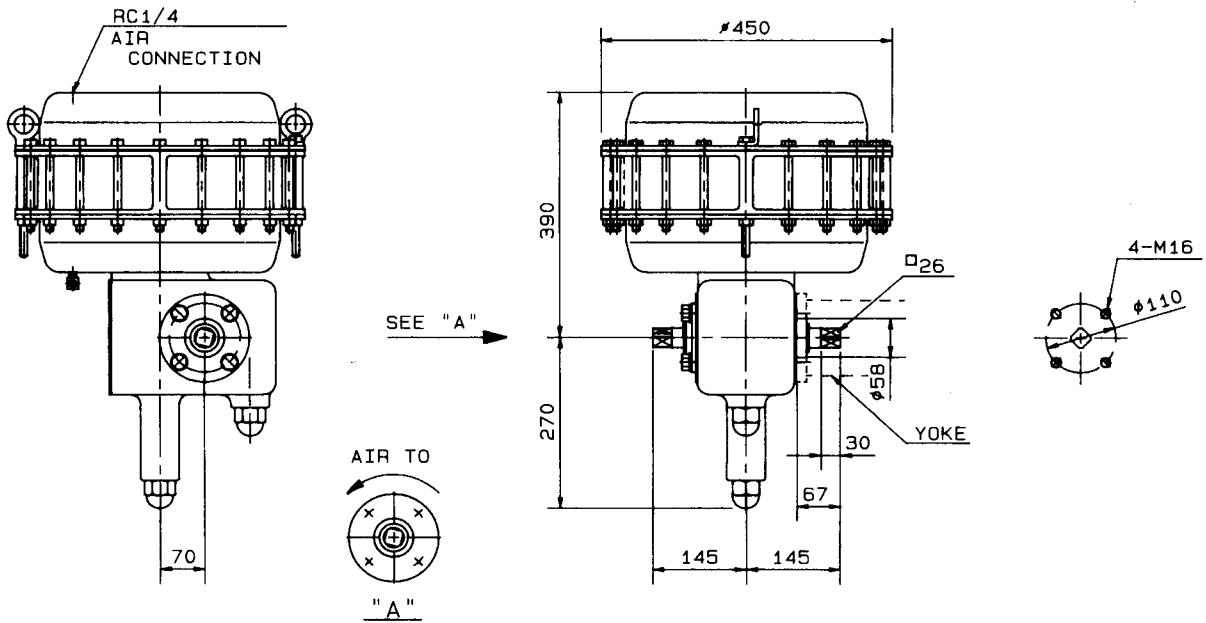
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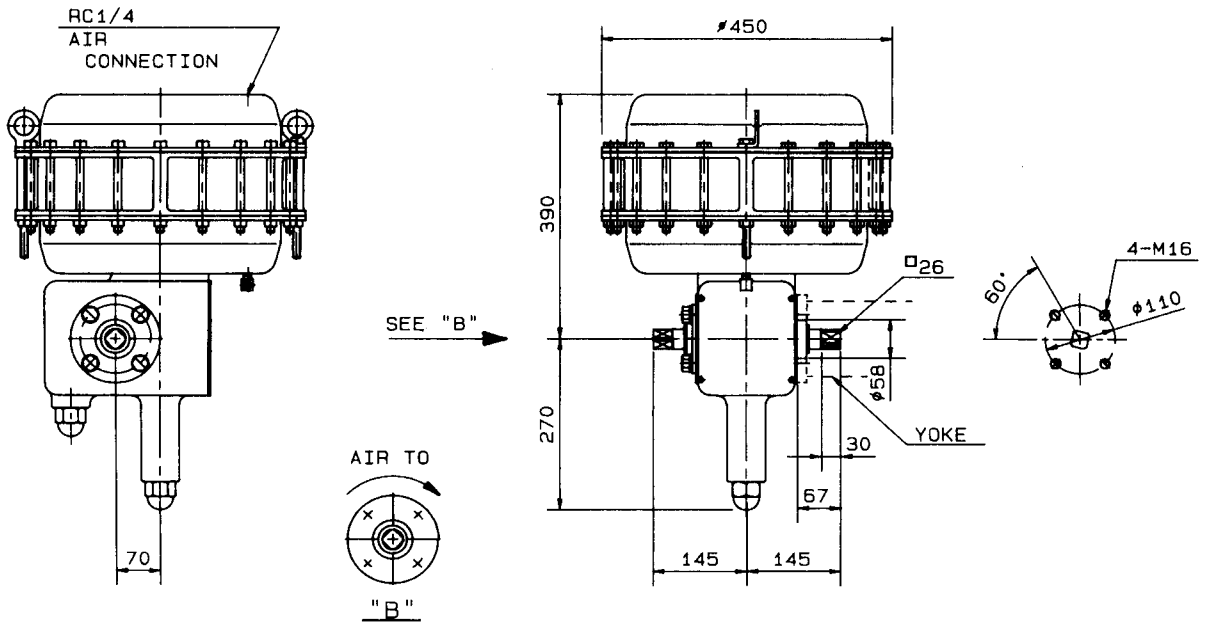
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DIAPHRAGM ACTUATOR

□ REVERSE ACTION



□ DIRECT ACTION

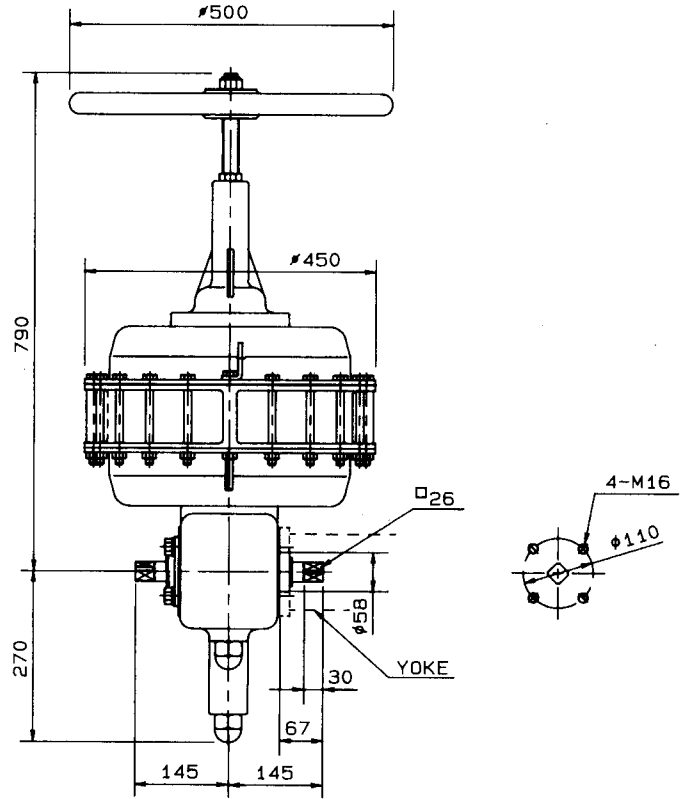
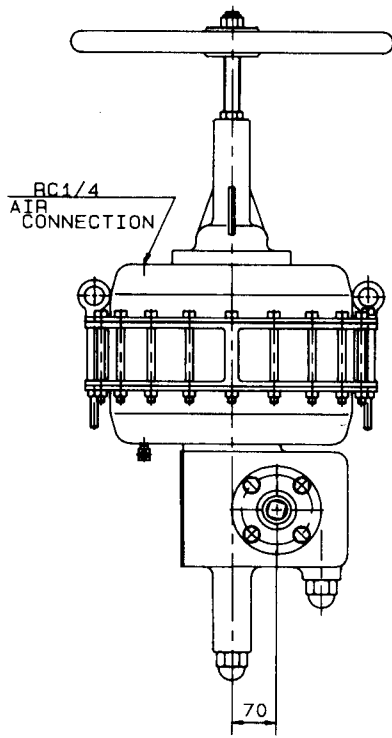


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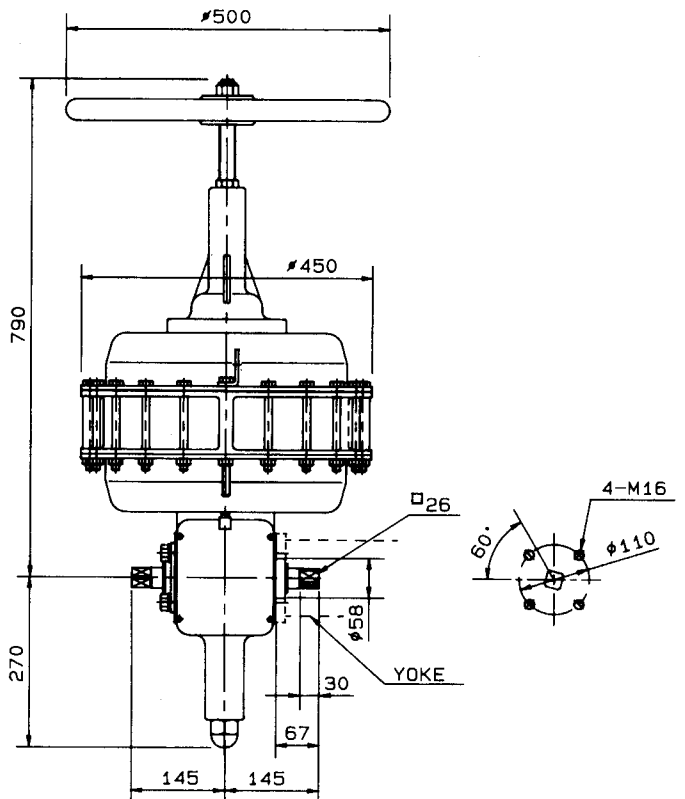
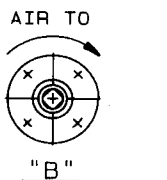
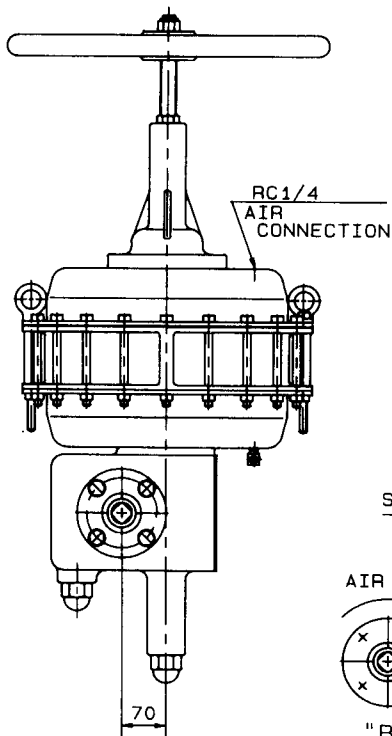
DRAWING No.	
E-524LRA-D-R-N	
REV	KOSO
B	

DIAPHRAGM ACTUATOR

□ REVERSE ACTION



□ DIRECT ACTION



NOTE :

DRAWING No.

E-524LRA-D
R-T

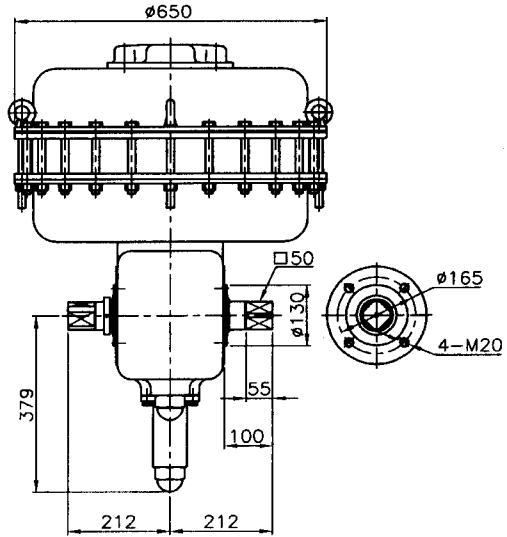
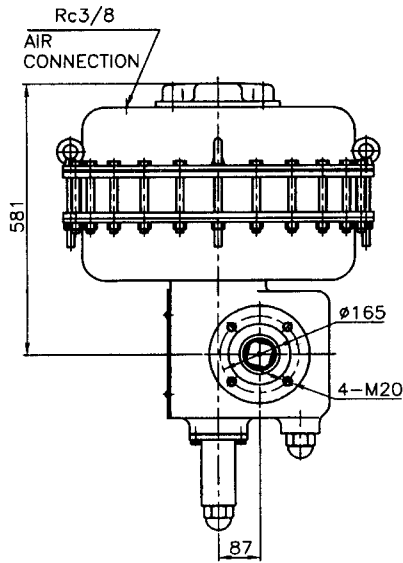
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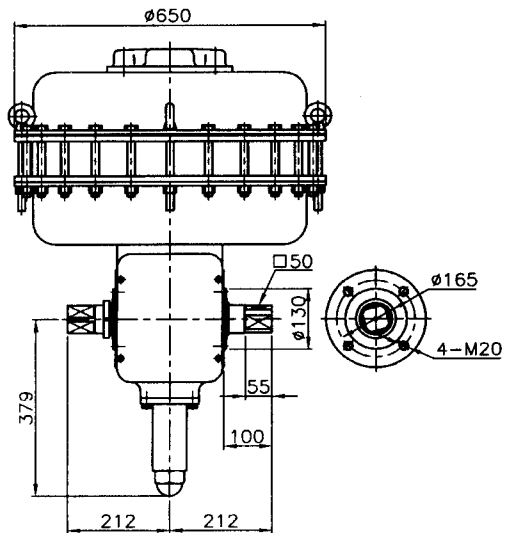
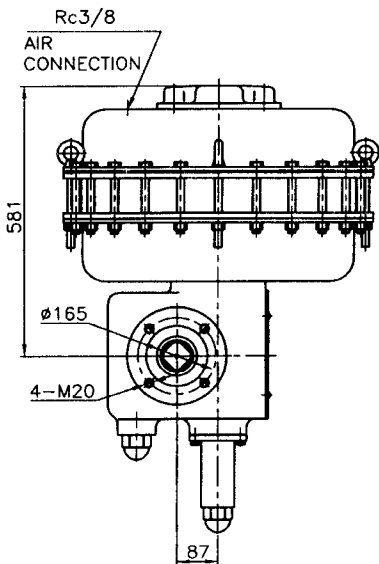
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DIAPHRAGM ACTUATOR

REVERSE ACTION



DIRECT ACTION



NOTE:

DRAWING No.

E - 526LRA - ^D - N
R

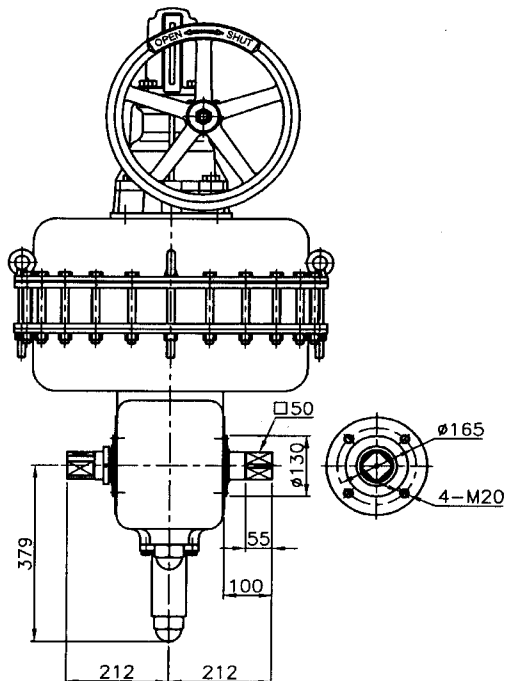
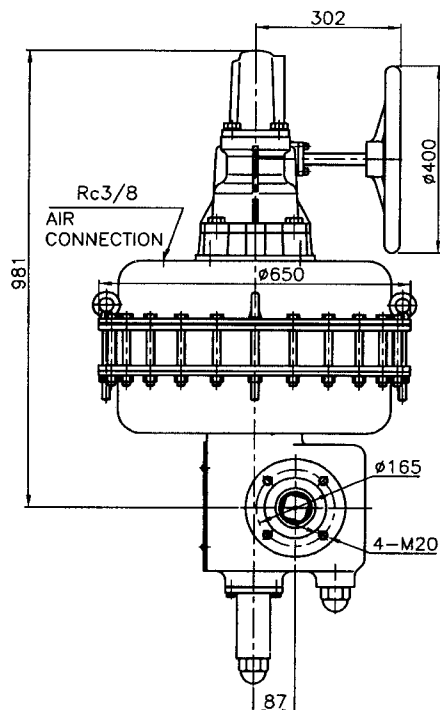
REV

A

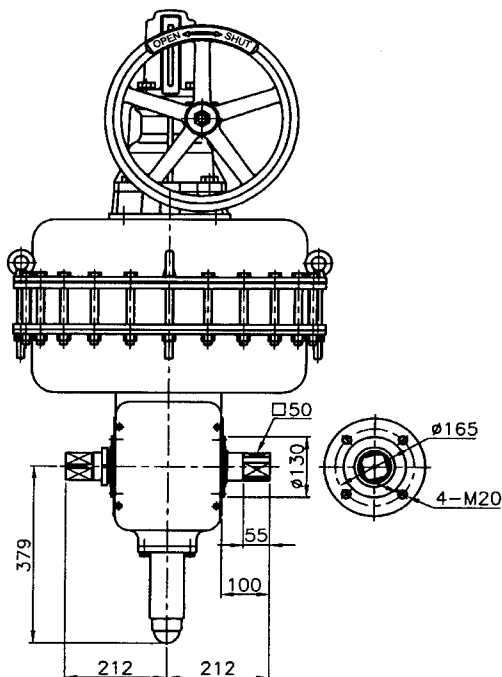
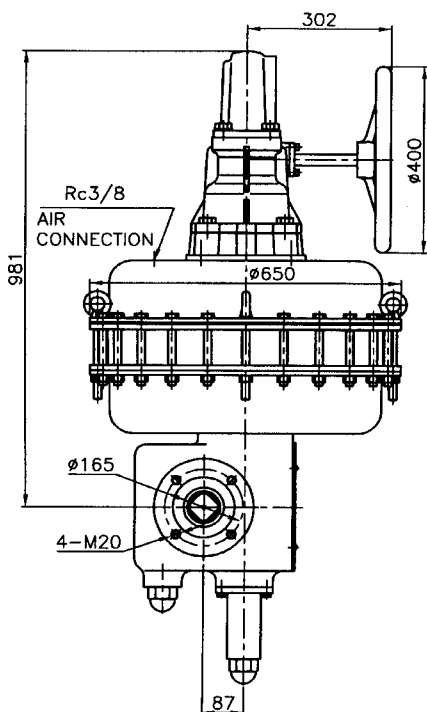
KOSO

DIAPHRAGM ACTUATOR

□ REVERSE ACTION



□ DIRECT ACTION



NOTE:

DRAWING No.

E - 526LRA - D - S
R

REV

A

KOSO