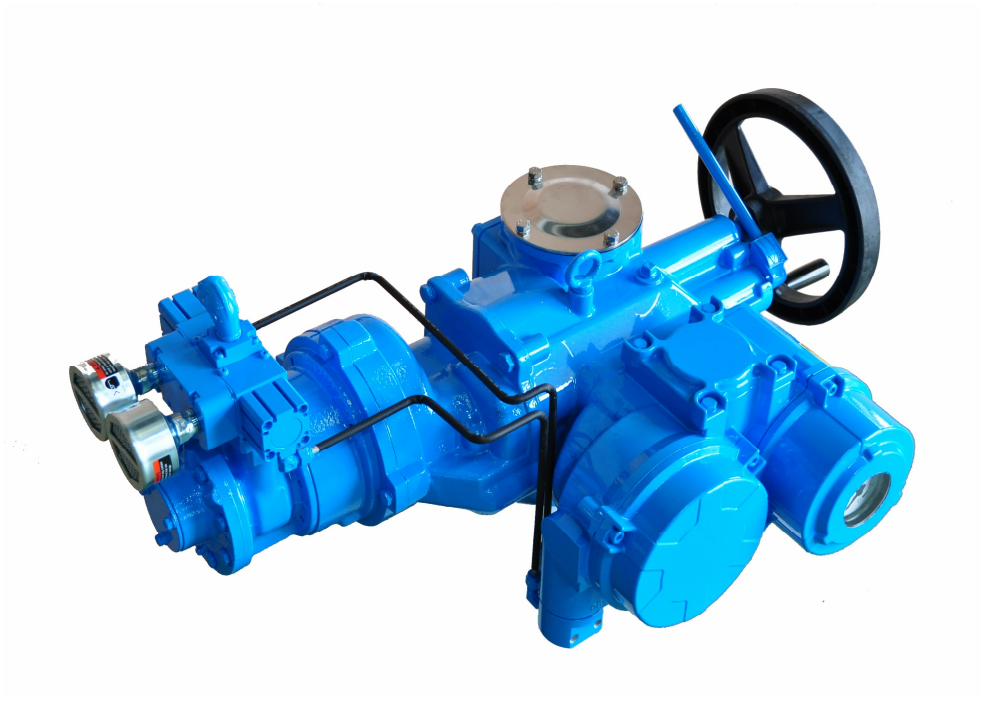


Pneumatic Actuator

TMP - SERIES



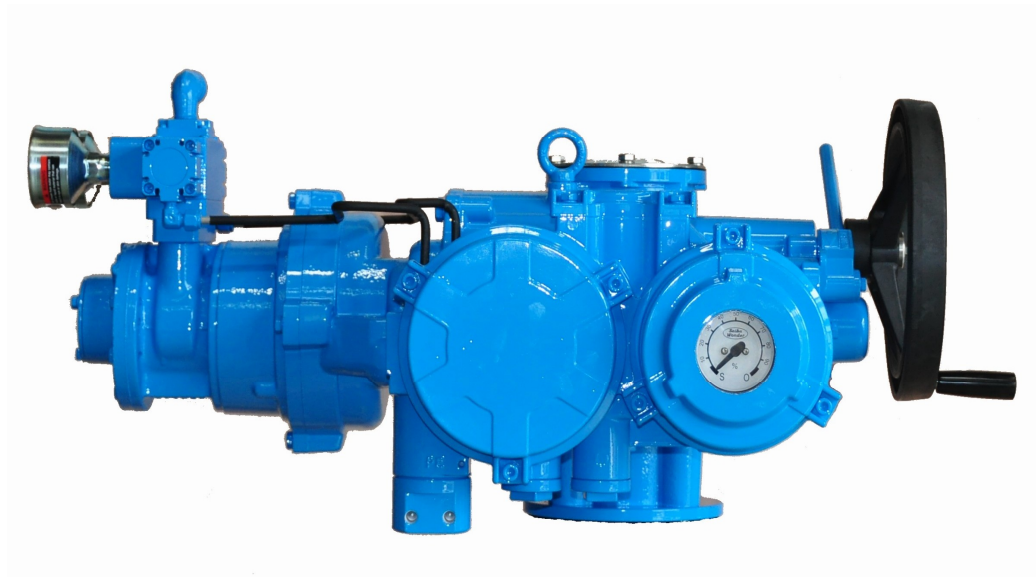
Multi Turn



SEIBU WONDER

It's an ACTUATOR for the 21st century

Accuracy, comprehensive functions, easy handling. Environment free use. Trouble free durability, simple construction – all these are what customers want for the actuator of next century. TM – Series is the answer 50 years' experience of SEIBU as a leading manufacturer of actuator and diligently in deliberated to given birth TM- Series.



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Feature

Environment free use --- All the compartments of Tmp-series have enough flame path according to IEC standard to ensure complete protection from dust, moisture IP67.

Multi Unit configuration --- All the compartments are independent off each other , but simple to assemble or disassemble , thus the expansion of function is easy.

Independent Hand wheel shaft all side mounted All TM series actuators have independent hand wheel shaft engaged with the worm gear through an intermediate spur gear to prevent the manual drive parts from the damages often occur in the manual drive parts during the manual operation of the actuators of which hand wheel shaft directly drive the worm . Also the side mounted hand wheel . On all Tmp series ensures easier manual operation then the top mounted . All of gear set lubricated by grease oil and runs long periods.

Manual operation---Auto return is standard , Power to manual operation by change lever shafting.



Controls --- Standard controls available with Tmp include local manual control (by hand wheel), pneumatic control , electric remote control . Once the valve reaches end of travel or experiences an over torque switch will interrupt power supply to the control valve. Cutting off air supply to the motor.

Position indicator --- Gear driving and shows the valve position in percentage.

A wide range operating pressure ---

Maximum operating pressure :120 PSI

Minimum operating pressure :60 PSI

Ambient temperature range -23 °C~ 120°C

Design life --- Min 10,000 cycles of 0 <----> 100% travel provided regular maintenance performed as per the operation manual.

Supply Air --- The air supply line with filter and lubricator, is connect to the control valve.

Versatility---for use all kind of valves: gate, globe,ball,butterfly,plug.

Construction

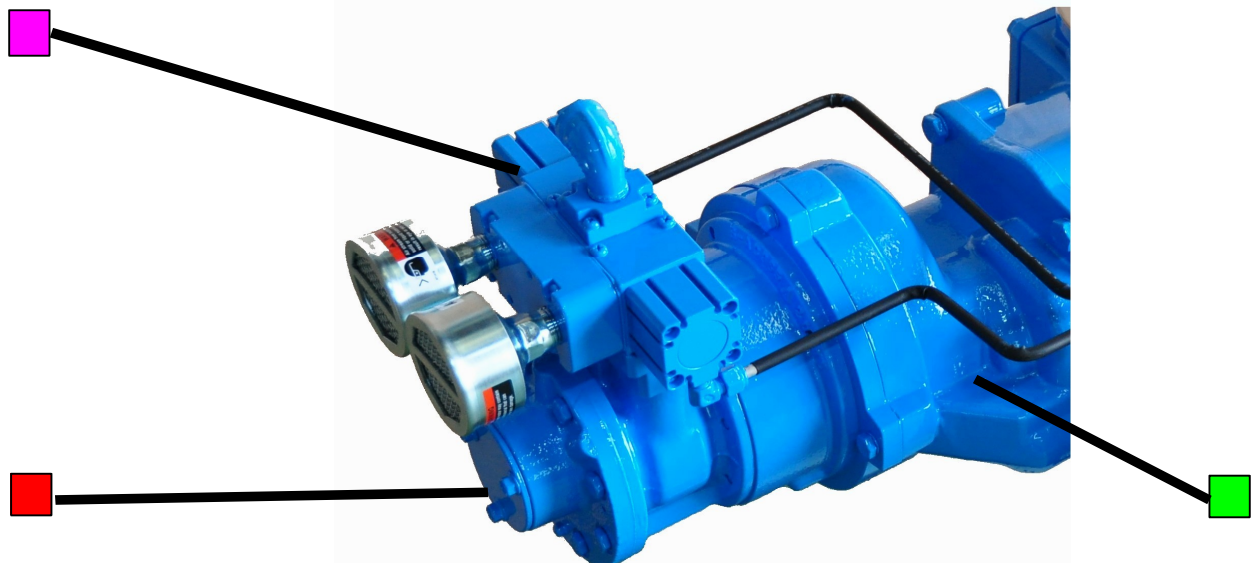
■ Main direction Valve

Highest reliable direction valve with 5ports 3 position valve .

Available in various harsh environments. Use electric or pneumatic signal for OPEN & CLOSE direction control,

■ Gear reduction

Double gear reduction device. Easy to maintain. The major gears has been heat treatment. Power driven device assembled by spur gear set and wormgear. All of the gears is

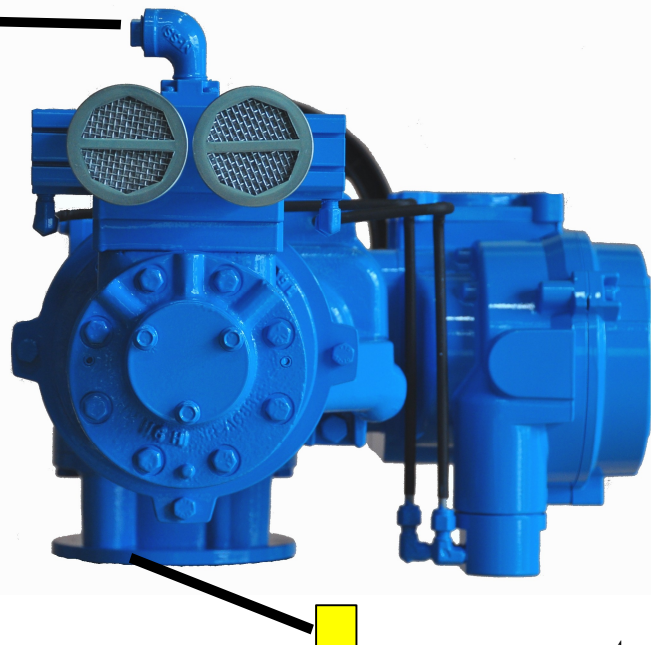


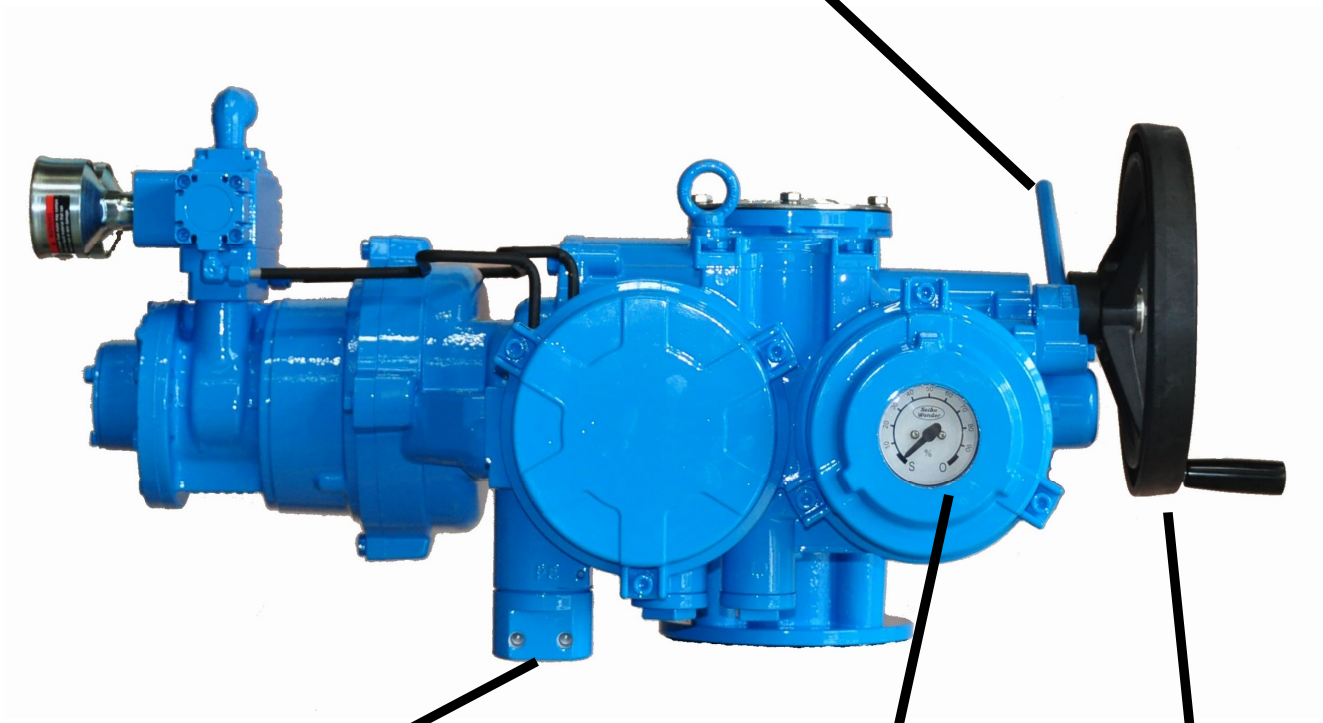
■ **Pneumatic motor** from 0.9kw to 8.6kw max 3000 rpm at 100 psi supply air. Air supply range from 60 psig minimum to 120 psig maximum. Ambient temperature range -23°C to 120°C .

■ AIR SUPPLY PORT

■ **Thrust unit** is setting at bottom of actuator

thrust unit of spheroidal graphite cast iron consists of thrust bearing and two type of drive bush. Threaded bush for Rizing valve and bore with key bush for non-Rizing valve, Detachable to allow easy installation. For use on all types of valves and dampers;





Change lever operation easily shaft the pneumatic power operation to manual operation even when the pneumatic motor is running break between motor and gear motivity transmitting.

Hand wheel is side-mounted for all TM-series to allow easy manual operation.

Switch unit
4.1 Limit switch

Limit switch is driven by a counter gear train to ensure high setting accuracy and reliability at any predetermined position. Set easy and fast by screwdriver.
 The position also can set between full OPEN and full CLOSE travel procedures any position.

4.2 Torque switch

Torque switch automatically stops the motor when the torque bigger then set value is applied to the output shaft of actuator. Originally measured and set at the time of delivery and adjustable at site by repositioning the dial.

4.3 Position indicator

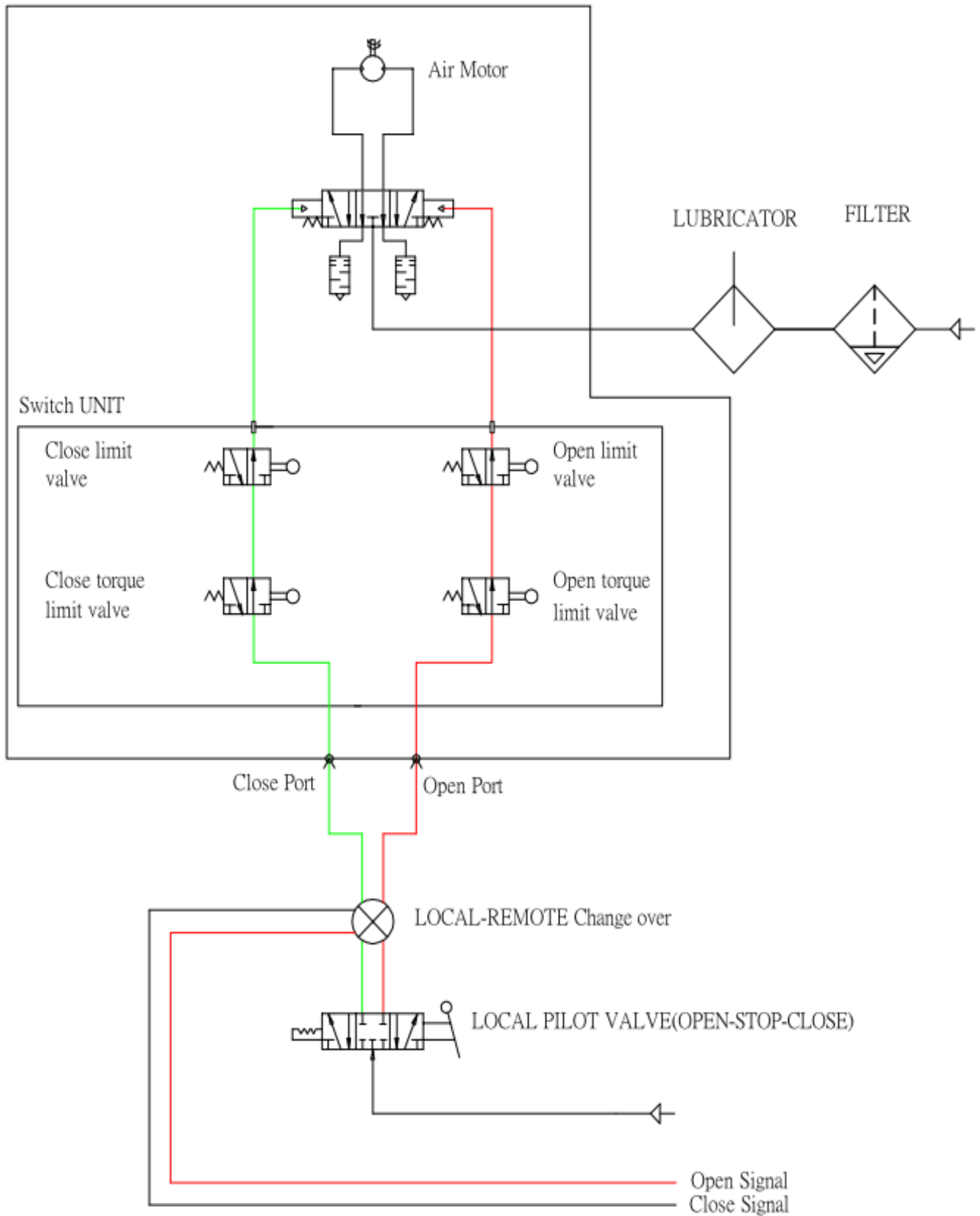
Position indicator of wide angle 0~100% continue pointing , linearity shows the exact position of valve in percentage.

Pneumatic input signal

Pneumatic signal for OPEN & CLOSE direction control.
 O : OPEN direction port

TMP-Pneumatic ACTUATOR CONTROL SYSTEM

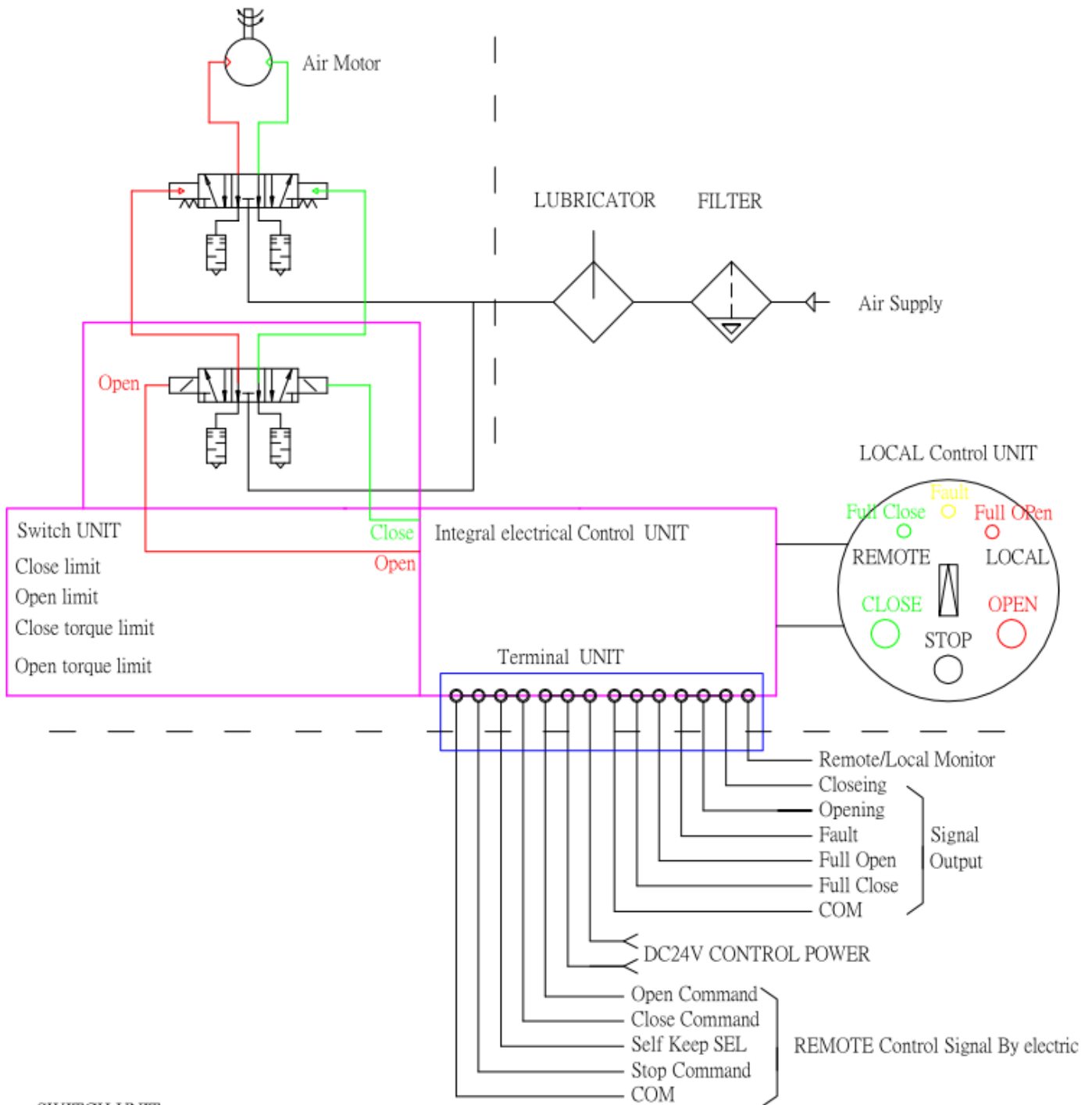
Full Pneumatic control Basic UNIT



Electric Remote Control

TYPE : TMP-I

Electric with Pneumatic remote control Integral Control Included



SWITCH UNIT

Limit switch
 1. Counter gear driven ,
 2. Ccntector Open:1a1b x1Close:1a1b x1
 AC 250V 5A/DC 125V 0.4A/ DC 30V 4A
 3. 2a2b,4a4b,For option

Torque switch
 1. Adjustable at site.
 2. Ccntector Open:1ab x1Close:1ab x1
 AC 250V 5A/DC 125V 0.4A/ DC 30V 4A
 3. 1a1b,2a,2b,For option

TMP Series Actuators Air Motors data

Table 1

Model	Operating data				Max Torque	
	Max. Speed (RPM)	Output power (kW)	Torque(Nm)	Max. Air consumption (m ³ /hr)	Max. Speed (RPM)	Nm
4AM	3000	1.3	4.1	132.5	300	6.3
6AM	3000	3	10	228	300	13
8AM	2500	3.9	14.4	293	300	21
16AM	2000	7	34	475	300	43

Note: 0.7M Pa & 7 bar line pressure for data respectively

Table 2

Model	Pressure Kg-cm ² (psi)	Motor RPM			consumption At RPM Shown (SCFM)		
		4.2 (60)	5.6 (80)	7.03 (100)	4.2 (60)	5.6 (80)	7.03 (100)
4AM		2700	2900	3000	46	59	72
6AM		2700	2900	3000	84	102	130
8AM		2300	2400	2500	120	150	180
16AM		1700	2000	2200	180	250	350

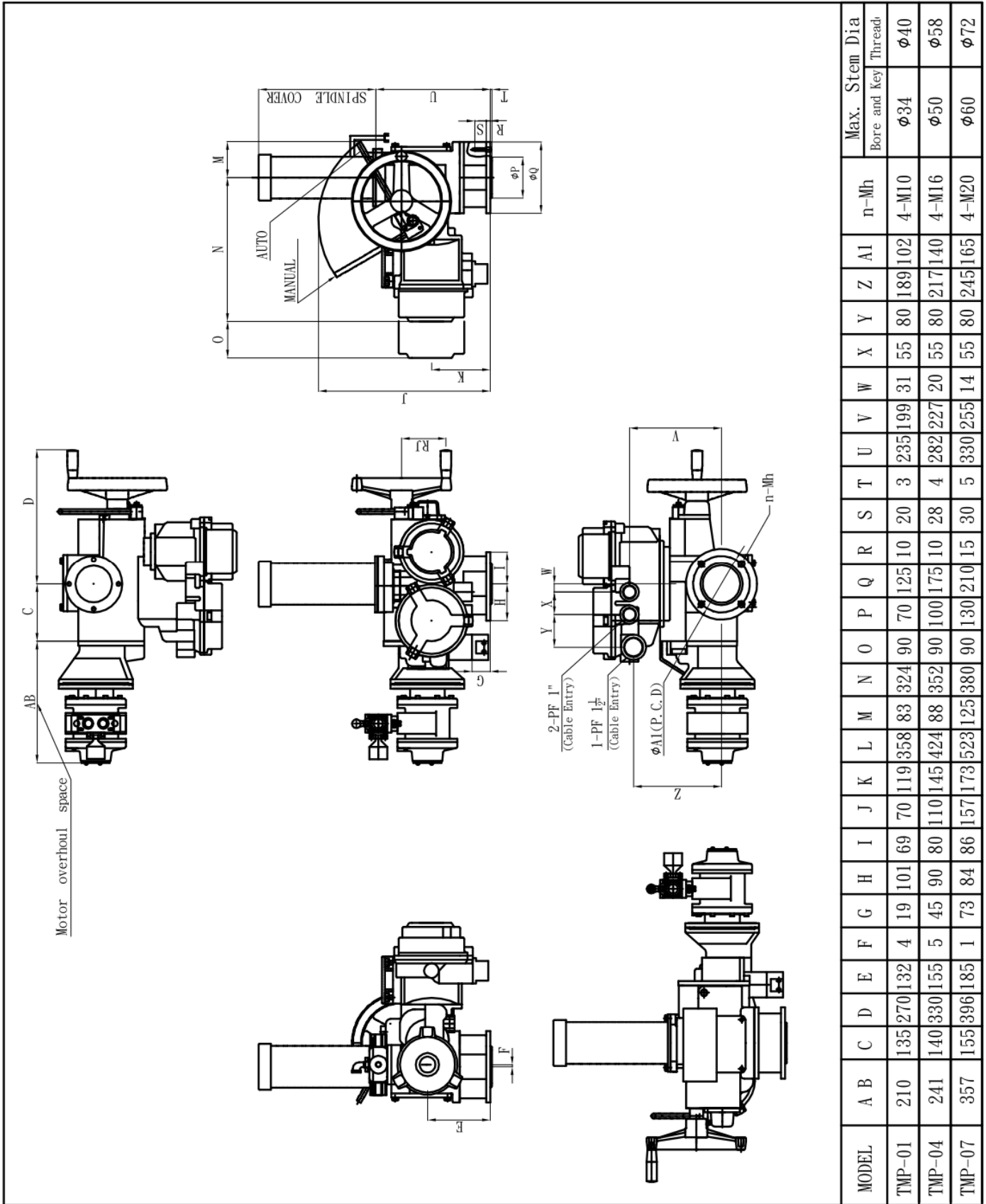
- Self-sealing vanes take up their own wear , ensuring consistent output for thousands of hour use.
- Variable speed capabilities allow flexibility and versatility in any number of applications.
- Cool-running operation means air motors can use in ambient temperatures of up to 120° C.
- Non-electrical operation means the possibility of explosion from igniting flammable gases is reduced.

MECHANICAL DATA

Model	Allowable torque kgf.m (Nm)	Allowable thrust Ton (kN)	Allowable stem dia. mm.bore Key Key threaded	Handwheel dia.mm	Flange dia. ISO NO. tap PCD/size pilot dia.,mm	Piping size in.
TMP-01	15.0 147	7 68.6	34 40	up to 30.4 rpm ratio: 16.8:1 25.3:1(option) over 30.4 rpm ratio: 5.6:1 15.3:1(option) dia. :160(245 option)	dia. 125 ISO No. F10 tap PCD 102 bolt 4-M10 pilot dia. 70	4AM 1/4" 6AM 1/2"
TMP-04	56.0 548.8	13 127.4	50 58	up to 30.4 rpm ratio: 40:1 62.4:1(option) over 30.4 rpm ratio: 13.3:1 20.8:1(option) 29.1:1(option) dia. :245(355 option)	dia. 175 ISO No. F14 tap PCD 140 bolt 4-M16 pilot dia. 100	6AM 1/2" 8AM 1/2"
TMP-07	86.0 842.8	16 156.8	60 72	up to 30.4 rpm ratio: 45.9:1 72.3:1(option) over 30.4 rpm ratio: 15.3:1 24.1:1(option) dia.:355(450) option)	dia. 210 ISO No. F16 tap PCD 165 bolt 4-M20 pilot dia. 130	8AM 1/2" 16AM 1 1/4"



Dimension

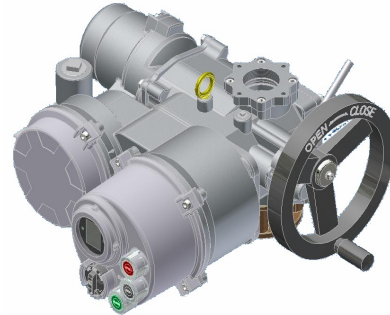


OTHER PRODUCTS

MULTI TURN TYPE



TM-SERIES



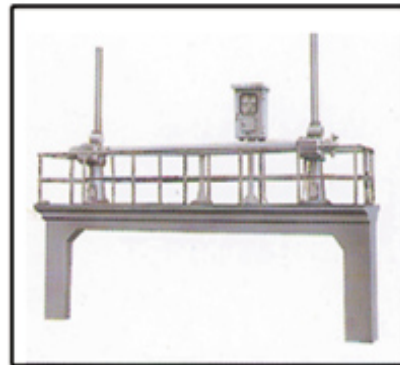
TMe -SERIES

QUATER TURN TYPE



TK-SERIES

Double spindle TYPE



LTKD-W-SERIES



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