



Valve Position Indicators

MODEL PI45,46,52,53

GENERAL SPECIFICATION
GS.No.GBB401E-1

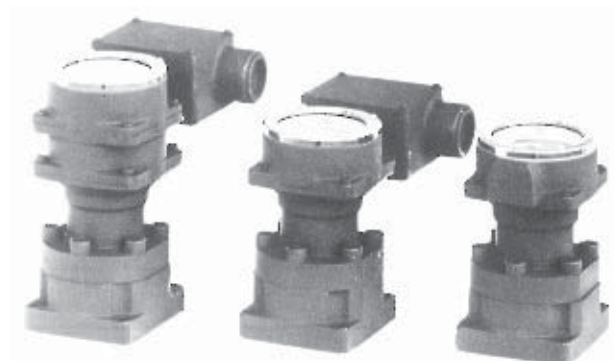
■ GENERAL

Connected in series with the hydraulic circuit of a hydraulic drive system, the valve position indicator shows from time to time the valve position or the actuator position of similar equipment by measuring the quantity of oil delivered.

It finds extensive use particularly in applications, such as central control of multiple loading/off-loading valves used in oil tankers, reservoir gate position monitoring for water management, and cutters of shield tunneling machines.

■ FEATURES

1. Can mount microswitches, potentiometer, or other devices to transmit remote signals: Ideal tool for playing the role of central control.
2. Uses an Oval PD meter for measuring the amount of operating oil displaced: A high accuracy, simple design, sturdy, and compact.
3. The pointer comes into contact with the stopper at 97 to 100% of valve actuator capacity and the remaining 0 to 3% capacity is absorbed by the slip friction clutch. Therefore, the pointer position is automatically corrected each time the valve is opened or shut.



Potentiometer eqpd.

or
Potentiometer
+
Microswitch

Microswitch eqpd.

Direct-reading

■ SPECIFICATIONS

1. Models and Applicable Ranges

Model	Flow Ranges		Applicable Cylinder Volume L
	L/min	L/h	
PI45	0.083 ~ 8	5 ~ 480	0.05 ~ 10
PI46	0.17 ~ 20	10 ~ 1200	0.16 ~ 32
PI52	1.33 ~ 50	80 ~ 3000	0.39 ~ 78
PI53	2.5 ~ 100	150 ~ 6000	0.7 ~ 140

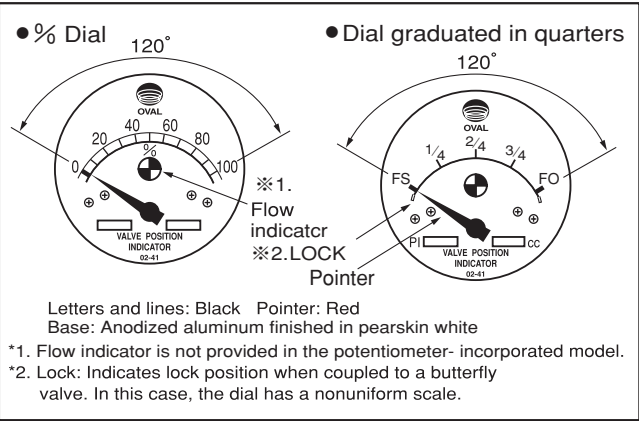
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Астана +7(7172)727-132
Белгород (4722)40-23-64
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Казань (843)206-01-48

Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Липецк (4742)52-20-81
Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41

Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Новосибирск (383)227-86-73
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78

Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Тверь (4822)63-31-35
Томск (3822)98-41-53
Тула (4872)74-02-29
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Уфа (347)229-48-12
Челябинск (351)202-03-61
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Ярославль (4852)69-52-93

3. Dial



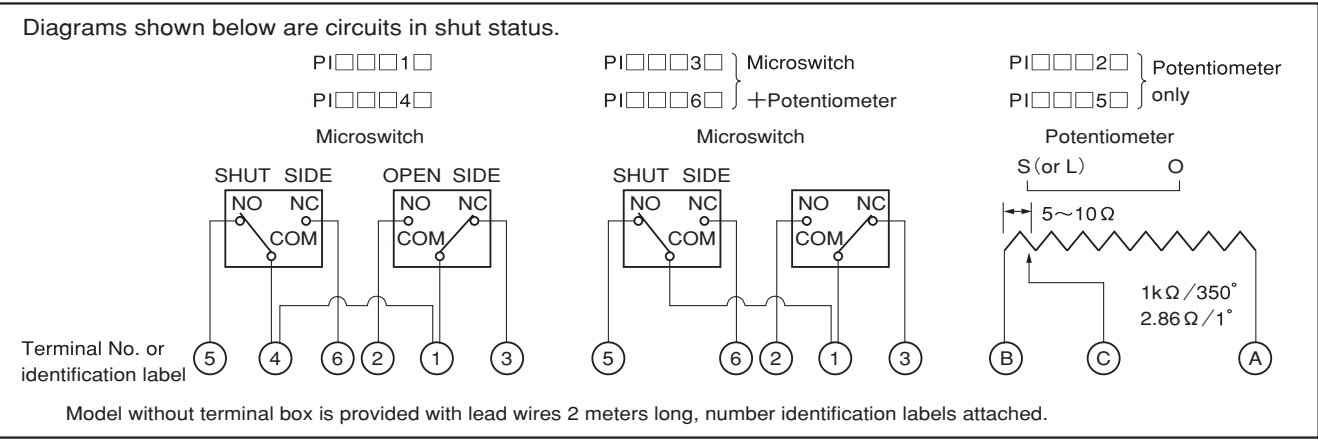
4. Remote signal transmitters

Can transmit open and shut status of a valve, etc. with microswitches or potentiometer in the form of electrical signals to a remotely located control room or elsewhere.

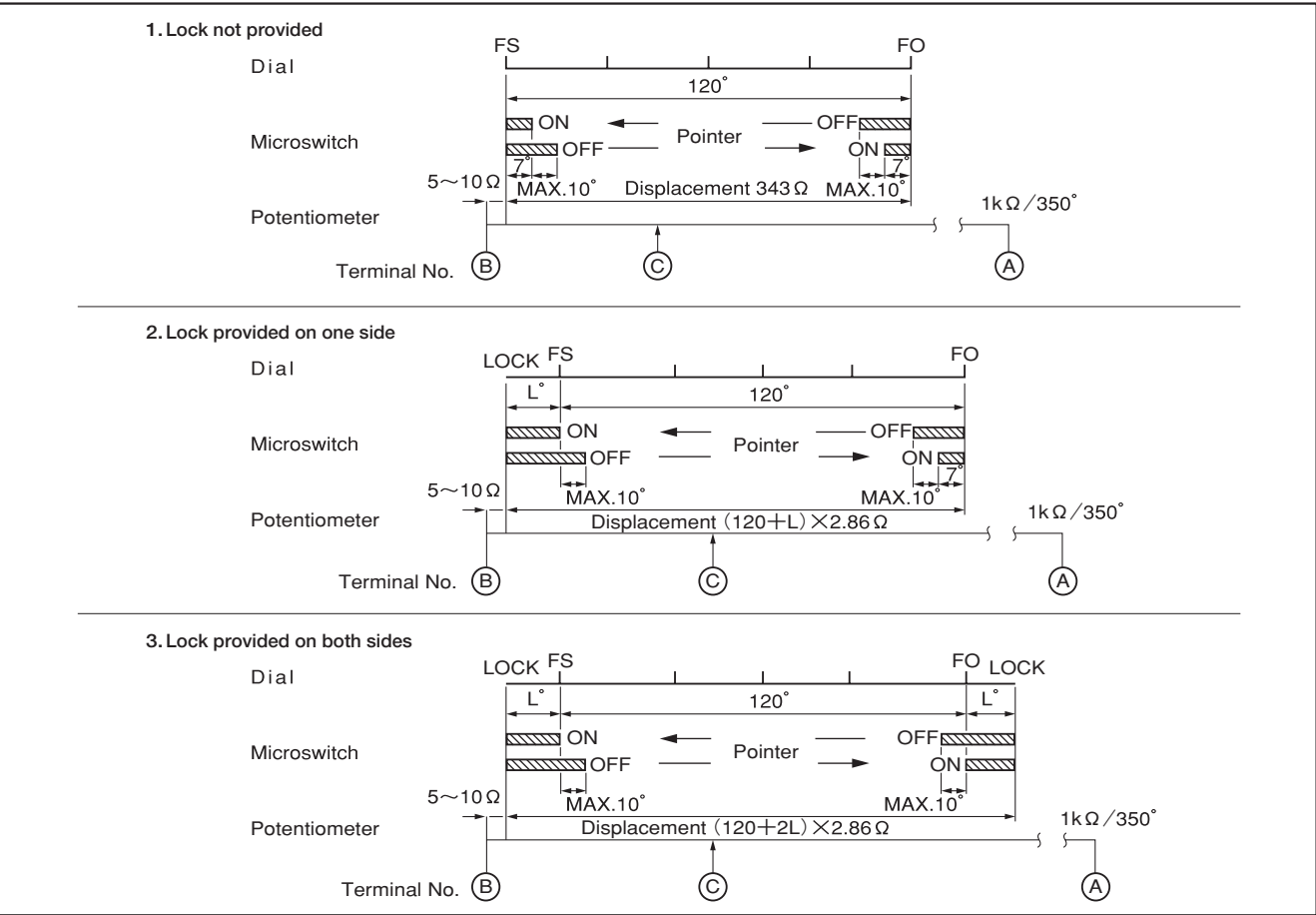
	Microswitch	Potentiometer
Functions	Transmits only open and shut positions in contact-closure signal (two statuses).	Transmits valve position in resistance value.
Electrical Specifications	Resistance load : 250VAC 5A Inductive load : 250VAC 4A ※Nonexplosionproof	Resistance value : 1kΩ/350° Accuracy : ±5% Rating : 2W at 40°C Resolution : 0.17% Linearity : 0.35% ※Nonexplosionproof

※For explosionproof type, consult the factory.

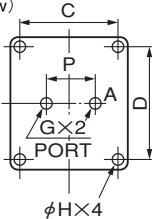
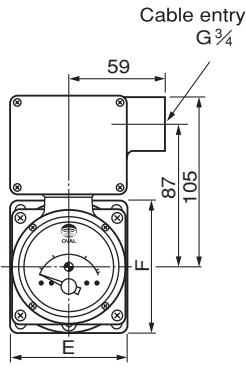
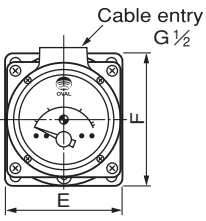
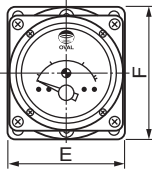
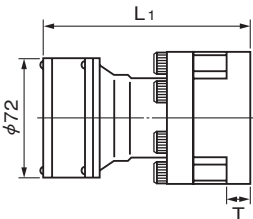
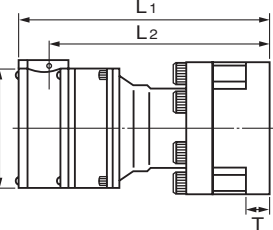
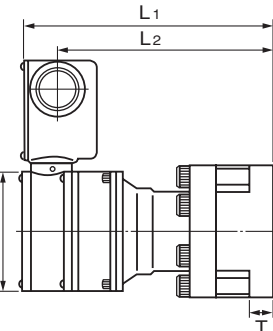
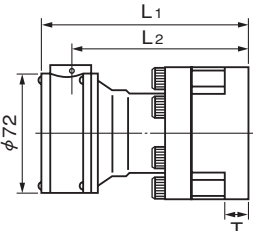
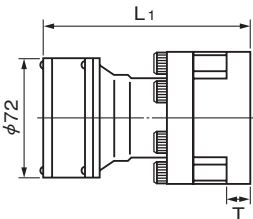
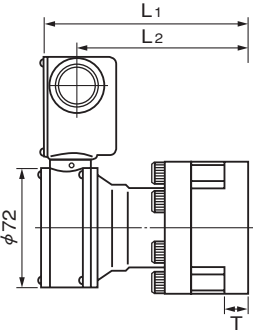
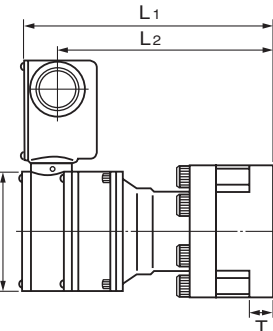
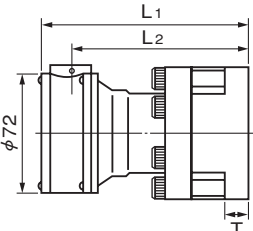
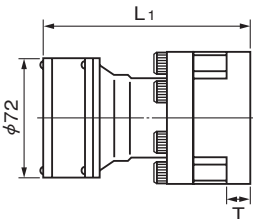
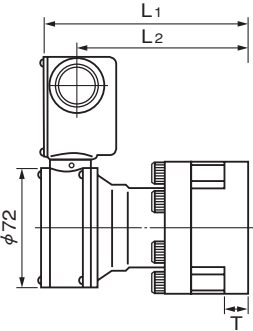
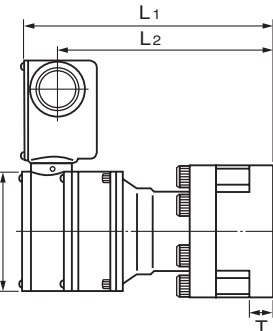
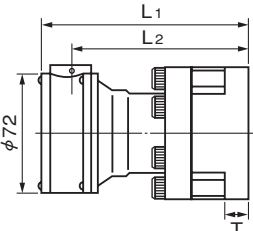
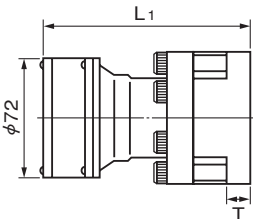
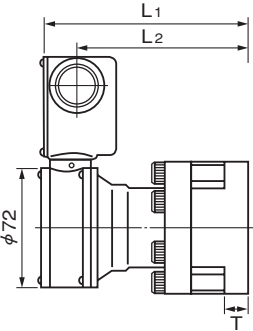
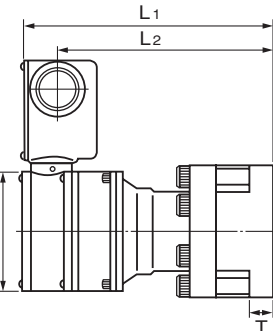
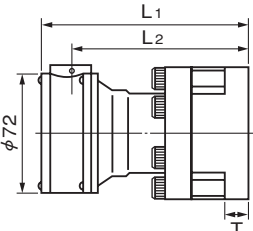
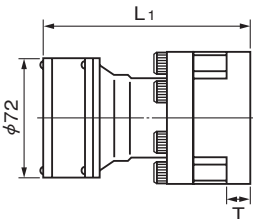
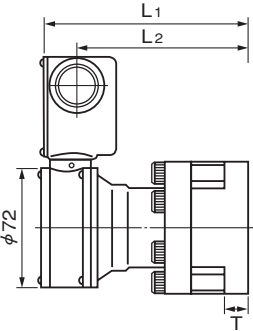
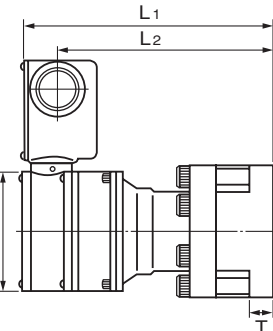
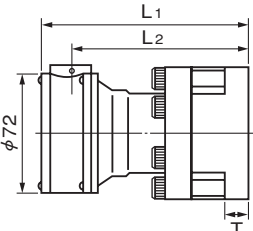
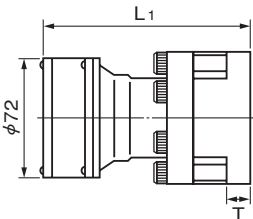
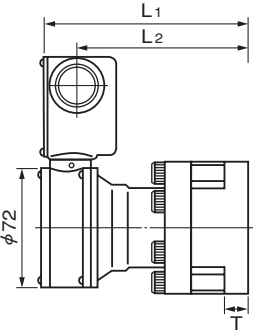
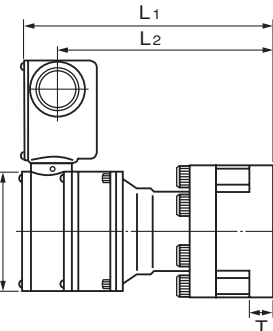
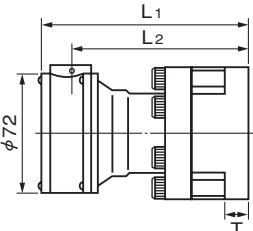
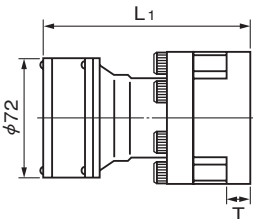
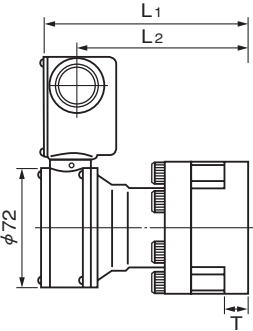
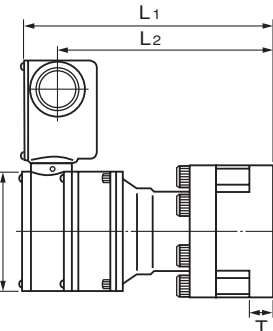
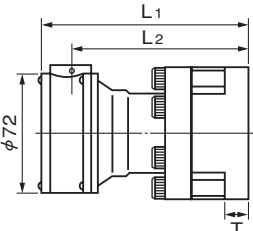
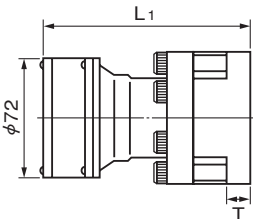
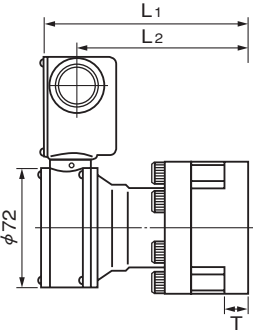
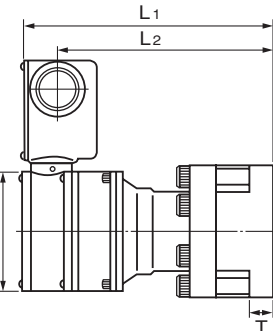
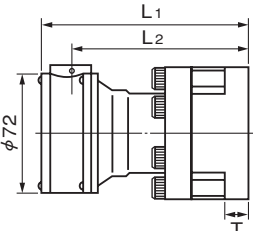
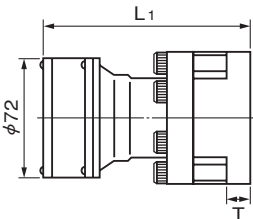
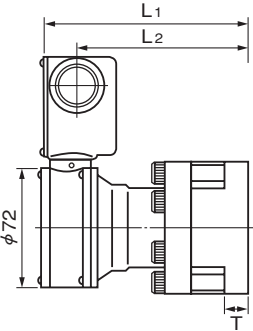
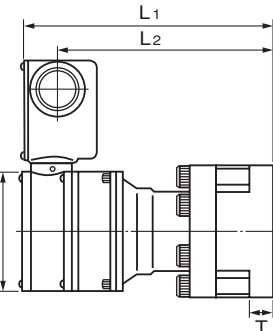
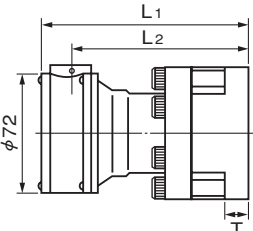
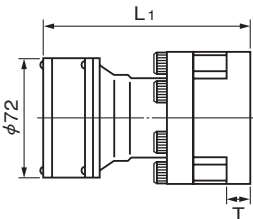
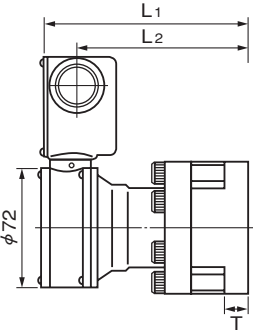
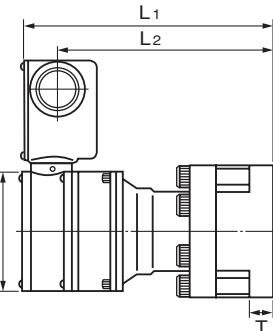
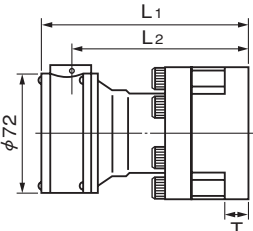
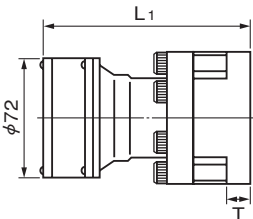
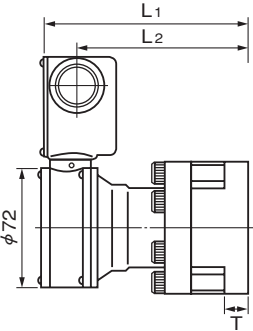
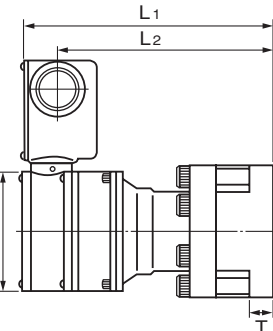
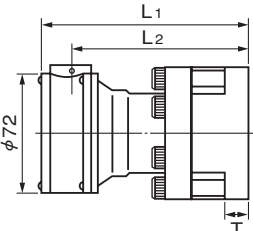
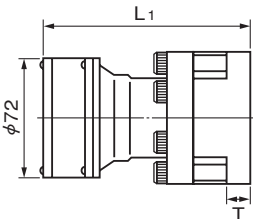
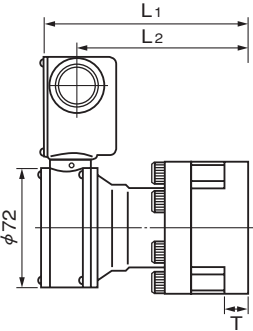
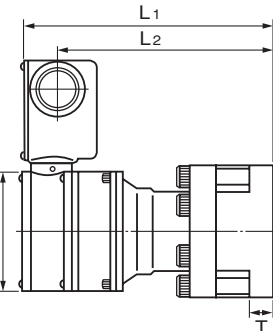
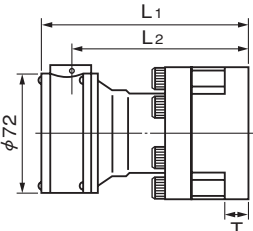
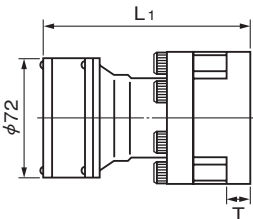
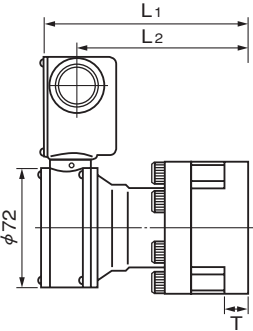
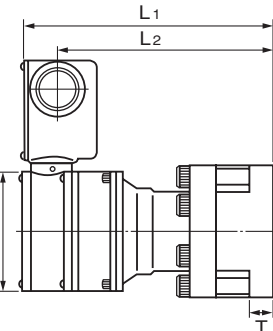
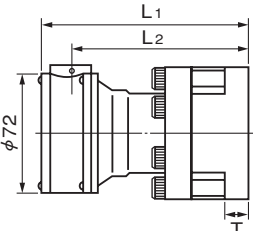
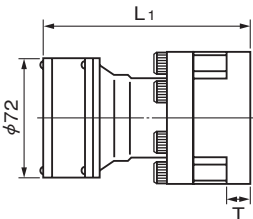
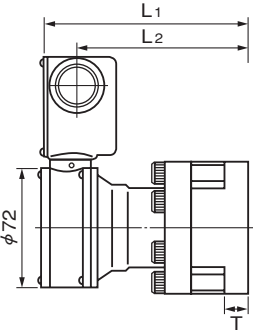
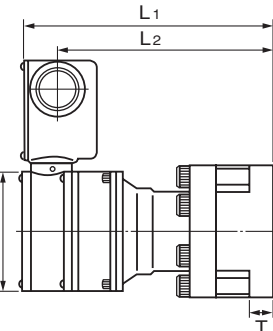
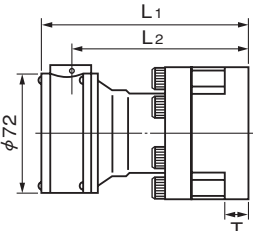
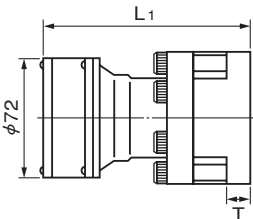
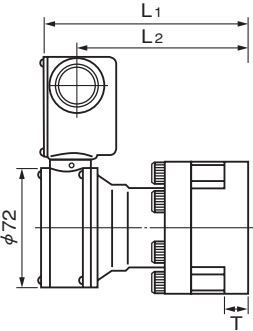
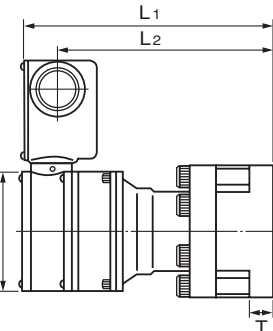
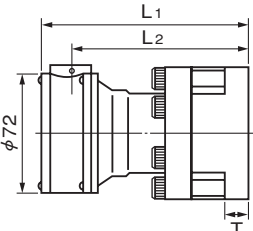
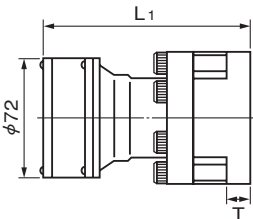
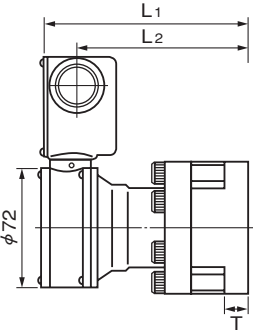
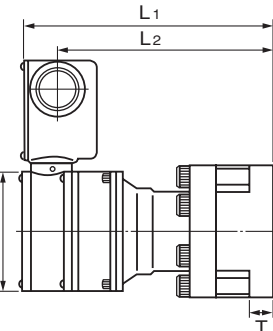
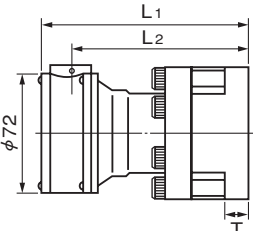
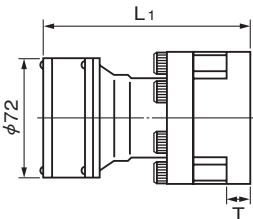
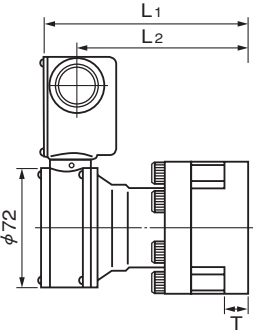
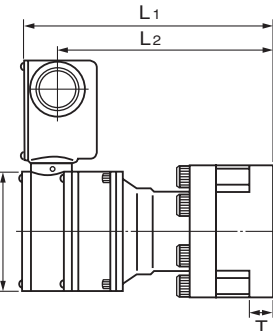
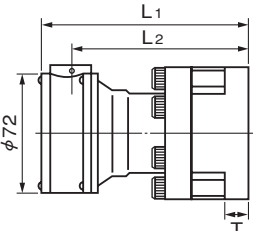
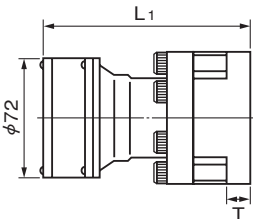
■ WIRING DIAGRAMS



■ DIAL INDICATION TO REMOTE INDICATION SIGNAL RELATIONSHIP



OUTLINE DIMENSIONS (Unit in mm)

Inlet/Outlet	Terminal box provided ※		Less terminal box																																																														
	Potentiometer eqpd. or potentiometer + microswitch eqpd.	Microswitch equipped	Potentiometer eqpd. or potentiometer + microswitch eqpd.	Microswitch equipped																																																													
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※Mount terminal box above the dial as standard potion. It may be relocated to left, right, or below. While the terminal box mounts horizontally with respect the base in standard configuration, it may be slanted at 45° to reduce mounting centers for multiple installation.

■ MODEL CODE NUMBER

Item	Code No.							Description
	①	②	③	④	⑤	⑥	⑦	
Type	P	I						Valve position indicator
Model	4	5						Max. flowrate 8 L/min
	4	6						Max. flowrate 20 L/min
	5	2						Max. flowrate 50 L/min
	5	3						Max. flowrate 100 L/min
Pressure (meter material)			B					13.73MPa (Body material FC250)
			H					20.58MPa (Body material FCD450)
Transmitter and terminal box				0				Direct reading type
				1				2 Microswitches Terminal box provided
				2				Potentiometer provided Terminal box provided
				3				Potentiometer+2 Microswitches Terminal box provided
				4				2 Microswitches Less terminal box
				5				Potentiometer provided Less terminal box
				6				Potentiometer+2 Microswitches Less terminal box
Connections				9				Other than above
				0				Standard (ϕ holes only)
				1				O-ring grooved
				2				Rc connection
				9				Other than above

■ When you inquire, please supply us with the following information:

No.	Item	Description
1.	Liquid kind	
2.	Flowrate (L/min)	Max. Nomal
3.	Pressure (MPa)	Max. Nomal
4.	Temperature (°C)	Max. Nomal
5.	Cylinder volume (L)	
6.	Indication	☐ Direct reading ☐ Direct reading with 2 Microswitches ☐ Direct reading with Potentiometer ☐ Direct reading with Potentiometer and 2 Microswitches
7.	Dial reading	☐ Indication in % ☐ Scale graduated in quarters ☐ Other (specified)
8.	Fluid flow vs. direction of pointer revolution	☐ In Inlet/outlet A → B, the pointer open-shut ☐ In Inlet/outlet A → B, the pointer shut-open
9.	Inlet/outlet position	As viewed from front of indicator ☐ Bottom: Side-to-side ☐ Bottom: One over the other
10.	Inlet/outlet connections	☐ Holes ☐ Rc screw ☐ O-ring
11.	Terminal box position	☐ Top ☐ Bottom ☐ Right side ☐ Left side (with respect to bottom) ☐ Horizontal ☐ 45° slanted
12.	Quantity desired	
13.	Installation location	
14.	Companion hydraulic equipment name	Valve type in case of a valve, and lock position (%) in case of butterfly valve

Архангельск (8182)63-90-72
 Астана +7(7172)727-132
 Белгород (4722)40-23-64
 Брянск (4832)59-03-52
 Владивосток (423)249-28-31
 Волгоград (844)278-03-48
 Вологда (8172)26-41-59
 Воронеж (473)204-51-73
 Екатеринбург (343)384-55-89
 Иваново (4932)77-34-06
 Ижевск (3412)26-03-58
 Казань (843)206-01-48

Калининград (4012)72-03-81
 Калуга (4842)92-23-67
 Кемерово (3842)65-04-62
 Киров (8332)68-02-04
 Краснодар (861)203-40-90
 Красноярск (391)204-63-61
 Курск (4712)77-13-04
 Липецк (4742)52-20-81
 Магнитогорск (3519)55-03-13
 Москва (495)268-04-70
 Мурманск (8152)59-64-93
 Набережные Челны (8552)20-53-41

Нижний Новгород (831)429-08-12
 Новокузнецк (3843)20-46-81
 Новосибирск (383)227-86-73
 Орел (4862)44-53-42
 Оренбург (3532)37-68-04
 Пенза (8412)22-31-16
 Пермь (342)205-81-47
 Ростов-на-Дону (863)308-18-15
 Рязань (4912)46-61-64
 Самара (846)206-03-16
 Санкт-Петербург (812)309-46-40
 Саратов (845)249-38-78

Смоленск (4812)29-41-54
 Сочи (862)225-72-31
 Ставрополь (8652)20-65-13
 Тверь (4822)63-31-35
 Томск (3822)98-41-53
 Тула (4872)74-02-29
 Тюмень (3452)66-21-18
 Ульяновск (8422)24-23-59
 Уфа (347)229-48-12
 Челябинск (351)202-03-61
 Череповец (8202)49-02-64
 Ярославль (4852)69-52-93