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YUKEN

YUKEN HYDRAULICS (TW) CO., LTD





1. Front View of the Main Factory

2. Front View of 2nd Factory

3. Power Unit Assembly Line

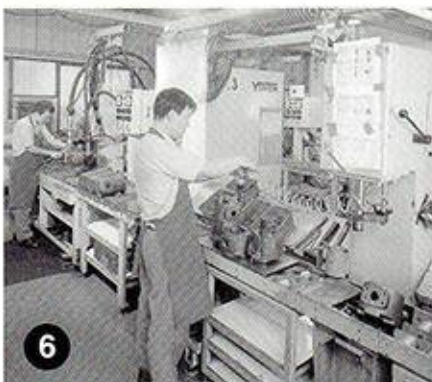
4. Horizontal Machining Centers

5. Processing Production Line (2nd Factory)

6. Vane Pumps Test Bench

7. Proportional Electro-Hydraulic Controls Test Bench

8. Solenoid Valves Assembly Line



Brief Introduction

The main factory of Yuken Hydraulics (T.W.) Co., Ltd., is located at No. 12 7th Rd., Taichung Industrial Park, Taichung, Taiwan. the area is 9,543 m². 2nd factory is located at No. 6, 7th Rd, the area is 5,623 m².

"To improve Technology, to improve Quality, to strengthen Service, and to satisfy Customers" are our consistent quality promises. In order to keep our promises, we have a strong focus on the promotion of automation and computerization covering sales, design, operations, production management and even quality control, to ensure quality of our products and services. All our employees pursue the organization's Goal - "To work hard, to ameliorate, and to grow perpetually."

As the domestic market was getting saturated gradually, we started exploring overseas market since July, 1996. The achievement has been remarkable. Our market is not only in Asia but also North America, Europe, Middle East and Africa.

- March, 1997, Yuken Hydraulics (T.W.) Co., Ltd., was awarded ISO-9002 certificate and built up international-level quality system.
- January, 1998, We open our second factory located at No.6 7th Rd., Taichung Industrial Park, Taichung, Taiwan, area is 5,623 m².
- February, 2002, Yuken Hydraulics (T.W.) Co., Ltd., was awarded CSA-C/US certificate, to strengthen our competition in North American market.
- May, 2002, Yuken Hydraulics (T.W.) Co., Ltd., was awarded ISO-9001 certificate and scaled new heights of quality system.
- October, 2002, Organization simplified, management institutionalized.
- June, 2003, Production line readjusted, equipment reinforced, production rationalized, striding into a new milestone.
- April, 2005, Proportional Valve was awarded CE certificate.
- November, 2005, Solenoid Valve was awarded CE certificate.
- November, 2008, Solenoid Valves with monitoring switches were patented in Taiwan.
- March, 2009, Solenoid Valves with monitoring switches were patented in China.
- June, 2010, Solenoid Valves with monitoring switches were awarded CE certificate.
- December, 2011, 2nd factory's expansion is finished.

Yuken Hydraulics (T.W.) Co., Ltd. has been leading the Industry here in Taiwan. We will increase technical cooperation with our parent company, Yuken Kogyo Co., Ltd. in the future. We will build an efficient and comprehensive sales network both in domestic and overseas market. Concurrently, we will train our talented people extensively to upgrade quality continuously. All our efforts are to achieve our goal - to grow perpetually!

- Name : **Yuken Hydraulics (T.W.) Co., Ltd.**
- Main Factory : No. 12, 7th Road, Taichung Industrial Park, Taichung, Taiwan.
Tel: 886-4-2359-3077 (Rep.)
Fax: 886-4-2359-2500
Website: <http://www.yuken.com.tw>
- Taichung Office: No. 12, 7th Road, Taichung Industrial Park, Taichung, Taiwan.
(Sales Dept) Tel: 886-4-2359-3077 (Rep.)
Fax: 886-4-2359-8813
- Taipei Office : No. 18-1, Wun Hua 5th Road, Guei Shan Township, Taoyuan County, Taiwan.
(Sales Dept) Tel: 886-3-328-3628 (Rep.)
Fax: 886-3-328-3242
- Established : 1, May, 1969
- Paid in Capital : NTS 90,000,000 (as of January, 2004)
- Line of Business : • Manufacture & sales of Hydraulic Pumps, Pressure Control Valves, Flow Control Valves, Directional Control Valves, Modular Valves, Proportional Electro-Hydraulic Control Valves, Electro-Hydraulic Servo Valves, Power Unit, Hydraulic Cylinders, Hydraulic Motors & Associated Products.
• Design, manufacture & installation of Hydraulic systems.
- Licensor : **YUKEN KOGYO CO., LTD.**

Group of Components



Hydraulic Pumps

Pressure Control Valves

Flow Control Valves

Directional Control Valves

Check Valves

Proportional Electro-Hydraulic Control

A Hydraulic Pump

1 MPa = 10.2 kgf/cm²

Pump Type	Max. Pressure MPa	Nominal Displacement cm ³ /rev										Page
		1	2	5	10	20	50	100	200	500		
ARL1 Series Variable Piston Pumps	7				ARL1						9	
AML1 Series Motor-Pumps	7				AML1						12	
ML1 Series Electric Motors	-	ML1 (0.75 / 1.5 / 2.2 kw)										15
AR Series Variable Piston Pumps	16				AR16	AR22					16	
50T 150T Single Pumps	7					50T		150T			20	
PV2R S-PV2R Series Single Pumps	21 (17.5/16/14)				PV2R1	PV2R2 S-PV2R2	PV2R3 S-PV2R3	PV2R4 S-PV2R4			24	
PV2R S-PV2R Series Double Pumps	21 (17.5/16/14)				PV2R1	PV2R2 S-PV2R2	PV2R3 S-PV2R3	Small Volume Pumps			38	
						PV2R2 S-PV2R2	PV2R3 S-PV2R3	PV2R4 S-PV2R4	Large Volume Pumps			
A ₁₆ SR3, A ₂₂ SR4 Series Piston & Vane Pumps	21 (17.5/16/14)				A16	A22	Piston Pump				48	
								PV2R3 S-PV2R3	PV2R4 S-PV2R4	Vane Pump		
SVPF Series Variable Vane Pump	7				SVPF-12	20	30	40			51	
SVPDF Series Double Variable Vane Pump	7				SVPDF-30	30					52	
							SVPDF-30	40				
								SVPDF-40	40			

B Pressure Control Valves

Valve Type	Max. Pressure MPa	Max. Flow L/min										Page
		1	2	5	10	20	50	100	200	500	1000	
Remote Control Relief Valves	25	DT-01										53
Direct Type Relief Valves	21			DT-DG-02								53
Pilot Operated Relief Valves	25					BT-BG-03		06	10			53
Low Noise Type Pilot Operated Relief Valves	25					S-BG-03		06				53
Solenoid Controlled Relief Valves	25					BST-03		06	10			57
Low Noise Type Solenoid Controlled Relief Valves	25					S-BSG-03		06				57
H & HC Type Pressure Control Valves	21					HT/HCT-HG/HCG-03		06	10			61
Pressure Reducing (and Check) Valves	21					RT/RCT-RG/RCG-03		06	10			67
Unloading Relief Valves	21					BUCG-06						72
Balancing Valves	14					RBG-03						73

C Flow Control Valves

Valve Type	Max. Pressure MPa	Max. Flow L/min										Page
		1	2	5	10	20	50	100	200	500	1000	
Flow Control (and Check) Valves	21					FG		03	06 *	10 *	*Yuken Kogyo Models	74
(One Way) Restrictors	21					SRCT		SRCT	SRCT-10			77
						SRG/SRCG-03		SRG/SRCG-06	SRCT-10			
Throttle (and Check) Modules	25					TC1G						80
						TC2G						
Needle Valves	35					GCT						81
						GTCR						

D Directional Control Valves 1 MPa = 10.2 kgf/cm²

Valve Type	Max. Pressure MPa	Max. Flow L/min												Page
		1	2	5	10	20	50	100	200	500	1000	2000	8000	
Solenoid Operated Directional Valves	7	DSGL-01												84
Solenoid Operated Directional Valves	31.5	DSG-01 : 03												86
Solenoid Valves with Monitoring Switch-DSGS	31.5	DSGS-01 : 03												92
Solenoid Controlled Pilot Operated Directional Valves	31.5	DSHG-04 : 06 : 10												94
Solenoid Valves with Monitoring Switch-DSHGN	25	DSHGN-03 : 04 : 06												99
Pilot Operated Directional Valves	31.5	DHG-04 : 06 : 10												104
Manually Operated Directional Valves	25 (21)	DMT-03 DMG-03												107
Mechanically Operated Directional Valves	21 (25)	DCT-01 : 03 DCG-01												109
Mechanically Operated Directional Valves with Monitoring Switch-DCGS	21 (25)	DCTS-01 : 03 DCGS-01												112
Logic Valves with Monitoring Switch-LDLS	30	LDLS-16 : 25 : 32 : 40 : 50												115
Check Valves	21	CIT-03 : 06 : 10												119
		CRT-03 : 06 : 10 CRG-03												
Pilot Controlled Check Valves	25	CPT/CPG : 06 : 10 CPDT/CPDG-03												121
Poppet Type Directional Valves	21	LVT-03 : 06 : 10 LVG-03												123
Prefill Valves	25	PF-80 : 90 : 100 : 125 : 150 : PF-200 (PF-300)												124

E Proportional Electro-Hydraulic Controls

Valve Type	Max. Pressure MPa	Max. Flow L/min										Page
		1	2	5	10	20	50	100	200	500	1000	
Proportional Electro-Hydraulic Pilot Relief Valves	25	EDG-01										131
Proportional Relief Valves	25			EBG-03					06	10 *	* Yuken Kogyo Models	133
Power Saving Valves	25	EFBG-03							06	10		135
Power Saving Valves 10Ω~10Ω	25	EFBG-03										141
Power Saving Valves High Performance	25	ELFBG ELFBCG-03							06			143
Proportional Electro-Hydraulic Directional and Flow Control Valves	25	EDFG-01				EDFHG-03		04	06			149
Power Amplifiers	-	AME-D2-H1 (Yuken Kogyo Models)		AMN-D-20T		AMN-D-L-20T		SK1115-※-30T		AMN-W-10T		156

F Other Valves

Valve Type	Max. Pressure MPa	Max. Flow L/min															Page
		1	2	5	10	20	50	100	200	500							
Lift Valves	21	LVST-03															165
Air Bleed Valves	21				AVT-03-05			AVT-03-20								166	
Automatic Shut Off Valves	21	DAS-03-20															166

G Modular Base Plates

Series Number	Max. Pressure MPa	Max. Flow L/min				Page
		0	20	40	60	
Base Plates	31.5	MMC-01				167

* As for the products other than those listed in this catalogue, please consult with our engineers for your requirement.

General Information

Design Standard

The distinctive features of Yuken Standard products is as shown below.

Feature	Domestic Standard	Remarks
Port Tapping	Rc(=PT)	Taper Pipe Thread (ISO 7/1)
Port Tapping (Partial)	G(=PF)	Straight Pipe Thread (ISO 228/1)
Pressure Gauge Tapping	Rc(=PT)	Taper Pipe Thread (ISO 7/1)
Mounting Bolts	Metric	General Purpose Thread (ISO 261)
Mounting Dimensions	Metric	
Conduit Entry	G(=PF)	Straight Pipe Thread (ISO 228/1)
Solenoid Voltages AC/DC	Domestic voltage	Voltage and frequency change according to country
Frequency	50/60 Hz	
Electronic Amplifier Input Supply	Domestic voltage 50/60 Hz	
Graphic Symbol	ISO Standard	ISO 1219
Valve Port Size	Inch	

Design Number

Yuken products have factory applied Design numbers, the key to which is as follows.

Example: 4222T68

42 22 T68

Major Design No. _____ Design No. for modified products in Taiwan
 Minor Design No. _____ Omitted: Domestic standard

Design numbers are subject to change. But installation dimensions and specifications remain unchanged for variation in second digit of design numbers (Minor Design No.).

Hydraulic Fluids

Type of hydraulic fluids

- Petroleum base oil-Please use anti-wear type hydraulic oil or R & O (Rust and Oxidation inhibitor) type hydraulic oil equivalent to ISO VG 32 or 46. Do not use VG 68 hydraulic oils in winter; it will cause suction failure or cavitation.
- Fire resistant or other special fluids-Please consult with our sales engineers for your requirement.

Fluid viscosity and temperature range

Please use hydraulic fluids in a range which satisfies the conditions of both viscosity and temperature (specified in table.)

Type of Components	Viscosity Range	Temperature Range
Hydraulic Pumps	20 ~ 400 mm ² /s ★ 1	0 ~ 70°
Pressure Control Valves	15 ~ 400 mm ² /s ★ 2	-15 ~ +70°
Flow Control Valves	FG, FCG : 20 ~ 200 mm ² /s Other : 15 ~ 400 mm ² /s	
Directional Control Valves	15 ~ 400 mm ² /s	
Proportional Electro-Hydraulic Control Valves	EBG : 15 ~ 400 mm ² /s EFBG : 20 ~ 200 mm ² /s	

- ★ 1. When starting the pumps at low speed, maximum viscosity is restricted. (see table above right).
 ★ 2. If the valve is provided with a vent restrictor (ex.: A-BSG-03), the viscosity range should be 15-200 mm²/s.

Control of contamination

Contamination of the hydraulic fluids may cause any damage to the products or shorten the life of the products, therefore, please maintain the degree of contamination level lower than NAS Class Numbers as shown on the table 1 below

① The suction port line must have a reservoir type filter of 100 μm (150 mesh) and the filter should be installed minimum 50 mm higher than the bottom of the reservoir.

② The return line must have a line filter.

Line type filter ratings

Type of Components	Line Type Filter
Pump's Suction Port	100μm
Circuit System	Piston Pumps: below 10μm E series components: below 20μm Other components: below 25μm

Limit of contamination

Type of Components	NAS Class No.
Piston Pumps	10 or less
E series components	11 or less
Other components	12 or less

General Information

■ Limitation of general properties of fluids

● Limit of fluid purity

Characteristics ¹	Value changed
Specific gravity (15/4°C)	0.05
Colour	2
Flash point (°C) COC	60
Total acid number (mg KOH/g)	0.2
Viscosity (cSt)	10 ~ 15

■ High-pressure specialized hydraulic fluid

Manufacture	Brand
Mobil	Mobil DTE 25
Shell	Shell Tellus Oil 46
China Oil	Aw46, LPS 46

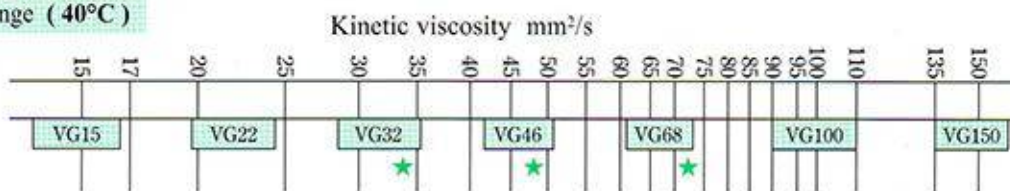
● Limit of water content

Applicable conditions	Limit
Fluid becomes milky with water contained.	To be replaced immediately.
Systems in which operating fluid circulates and returns to reservoir and which are not to be stopped for a long period of time.	1000ppm
System with long piping lines in which operating fluid in circuits does not completely circulate.	500ppm
Systems to be stopped for a long period of time (Safety systems) or systems in which operating fluid in circuits moves little, and precision control systems.	300ppm

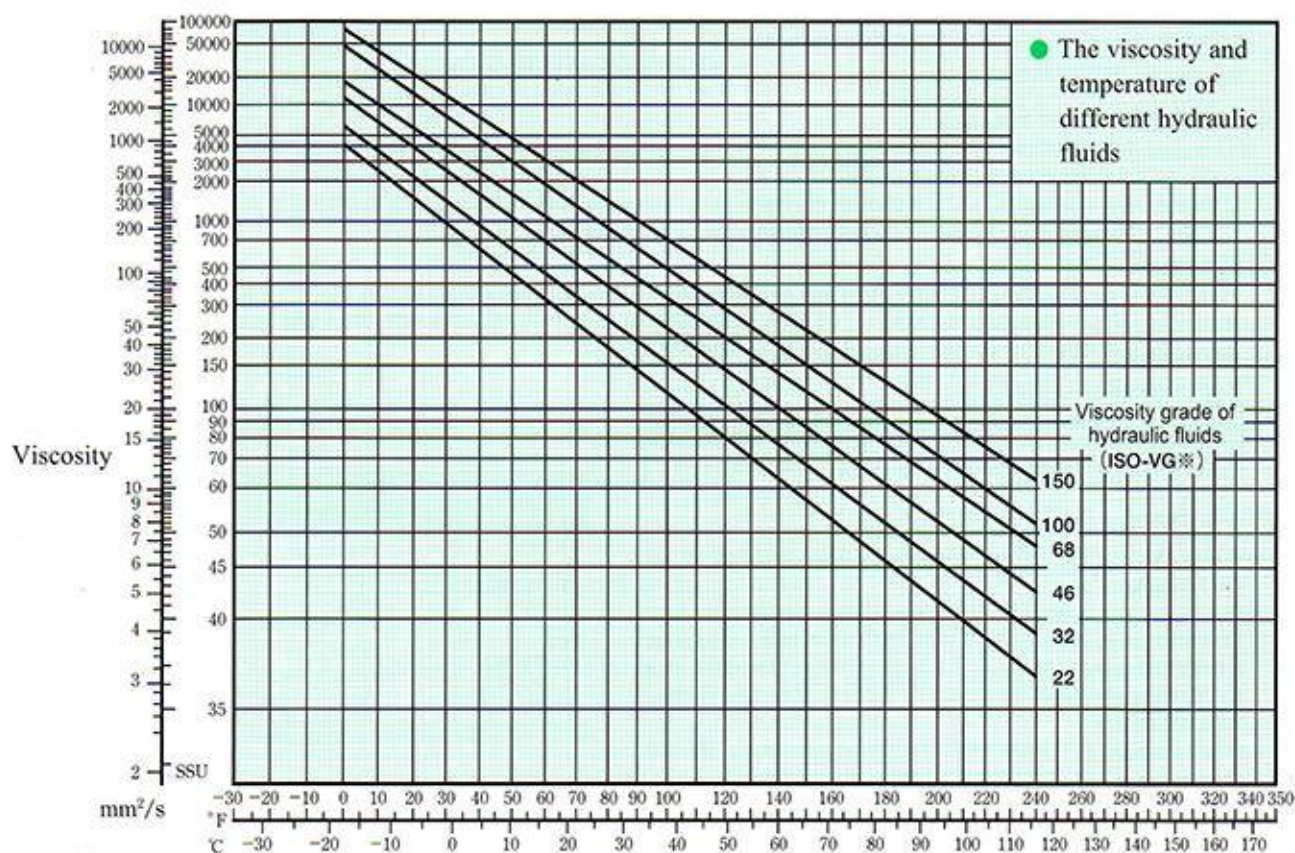
■ Viscosity of hydraulic fluids

Viscosity range (40°C)

● ISO
Viscosity
grade
(ISO VG)



★ JIS K 2213 The Second Type (Added Turbine oil)
for ISO VG32, 46, 68.



General Information

Instructions for hydraulic pump

1. Mounting

When installing piston pumps the filling port should be positioned upwards. When (S)-PV2R Single and Double Vane Pumps are operated below 1200 r/min; we recommend the suction port upwards to suck oil easily.

2. Alignment of Shaft

Employ a flexible coupling whenever possible, and avoid any stress from bending or thrust. Maximum permissible misalignment is less than 0.1 mm. TIR (Total Indicator Reading) and maximum permissible misangular is less than 0.2°.

3. Suction Pressure

★ 1 kPa = 0.01 kgf/cm² = 7.5 mmHg

Model		Suction Pressure Range		
		Min		Max.
		Petroleum base oils	Water containing phosphate esters	
Piston Pumps	ARL1 AR※	-16.7 kPa	—	+50 kPa
Single Pumps	50T 150T	-20 kPa	-16 kPa	+140 kPa
PV2R Single Vane Pumps	(S)-PV2R1 (S)-PV2R2 (S)-PV2R3 (S)-PV2R4	-20 kPa	-16 kPa	+30 kPa
PV2R Double Vane Pumps	(S)-PV2R12 (S)-PV2R13 (S)-PV2R23 (S)-PV2R24 (S)-PV2R34	-20 kPa		
		-20 kPa		
		-20 kPa ★		

- Make sure that the height of the pump suction port is within 1m from the oil level in the reservoir.
- Please follow the instructions of catalogue to choose suitable caliber of suction port pipes; otherwise, it might lead to dangerous cavitation. We suggest the suction port flow rate under 1 m/s.

★ For some displacement of pumps, the Min. suction pressure is restricted by the rotation speed. Please refer to Table 1.

● Table 1: The limitation of Min. suction pressure for specific displacement of hydraulic pumps.

The following hydraulic pumps with rotation speed 1700 r/min are restricted by the Min. suction pressure. (Min. suction pressure of other hydraulic pumps is -150 mmHg)

Model No.	Min. Suction Pressure kPa	
	1700 r/min Below	1700-1800 r/min
(S)-PV2R3-116	-20	0
(S)-PV2R4-237	-20	-13.3
(S)-PV2R※3-※-76	-20	-6.7
(S)-PV2R※3-※-94	-20	-6.7
(S)-PV2R※3-※-116	-20	0
(S)-PV2R※4-※-237	-20	-13.3
(S)-PV2R34-76-※	-20	-6.7
(S)-PV2R34-94-※	-20	-6.7
(S)-PV2R34-116-※	-20	0
(S)-PV2R34-116-237	-20	0

4. Instructions of Piping

- ① In case the pump is installed above the oil level, the suction piping and suction line filter should be located lower than the pump position to prevent air in the suction line.
- ② When using steel pipes for the suction or discharge ports, excessive load from the piping to the pump generates excessive noise. Whenever there is fear of excessive load, please use rubber hoses.

5. Drain Piping

Install drain piping according to the chart and ensure that pressure within the pump housing should be maintained at a normal pressure of less than 0.1 MPa (14.5 PSI) and surge pressure of less than 0.5 MPa (72.5 PSI). Length of piping should be less than 1 m, and the pipe end should be submerged in oil.

Recommended Drain Piping Size:

Model	Piping Fitting Size	Internal Dia. of Pipe
ARL1, AR※	3/8 (Internal Dia. more than Ø8.5)	more than Ø10

6. Hydraulic Pumps Starting

- Before first starting, fill pump case with clean operating oil via the filling port.
- In order to avoid air blockage when starting pumps after long time shut down, to set up air bleeding valve on the discharge sides in advance or to loose discharge piping connection area for bleeding the air in the pipes. To the best of pumps' starting with no loading.
- When temperature is under 15°C in winter or viscosity is 200~400 mm²/s (1000SSU~1800SSU), please refer to the following instructions to start pumps in order to make better internal lubrication, and it will help the suction of the pump and extend the pump's life.
- Starting instructions: to start running pumps for 5 seconds, and then stop it for 10 seconds. To repeat this process 10 times, and then keep it running.

● Table 2: Max. viscosity list of starting at low rotation speed

Model	Rotation speed of starting r/min	Max. viscosity mm ² /s
PV2R1 (S)-PV2R12 (S)-PV2R13 (S)-PV2R14	750	100
	950	200
50T (S)-PV2R2 (S)-PV2R23 (S)-PV2R24	600	100
	950	200

Flow Control Valves Flow Control & Check Valves

Max. Pressure 21 MPa

C



- These valves are pressure and temperature compensating type valves and maintain a constant flow rate independent of change in system pressure (load) and temperature (viscosity of the fluid). The valves have a digital flow adjusting dial to set the flow rate easily.
- The valves with an integral check valve allow free oil flow from the outlet port to the inlet port.

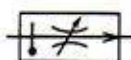
Specifications

Valve Size	Model No.	Max. Metered Flow Capacity L/min	Min. Metered Flow Capacity L/min	Max. Pressure MPa (kgf/cm ²)	Mass kg
1/4	FG-02-30-※-30 FCG-02-30-※-30	30	0.05	21 (210)	3.8
3/8	FG-03-125-※-30 FCG-03-125-※-30	125	0.2		7.9
※ 3/4	FG-06-250-※-30 FCG-06-250-※-30	250	2		23.0
※ 1 1/4	FG-10-500-※-30 FCG-10-500-※-30	500	4		52.0

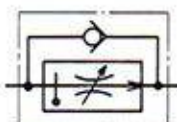
※ Products are made by Yuken Kogyo. If you have any inquiry, please contact our sales engineers.

Graphic Symbol

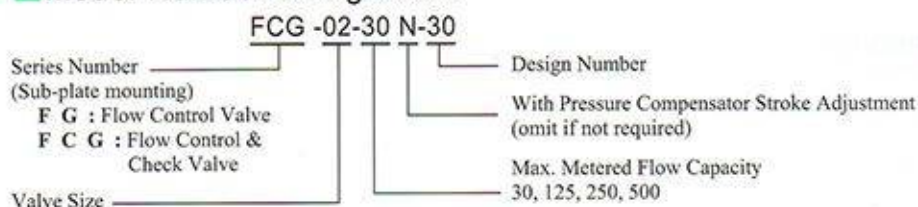
FG



FCG



Model Number Designation



Mounting Bolt (Attachment)

Model NO.	Socket Head Cap Screw	Qty	Tightening Torque N·m
F※G-02	M8 x 50 Lg	4	31~38
F※G-03	M10 x 75 Lg	4	60~74
F※G-06	M16 x 130 Lg	4	253~310
F※G-10	M20 x 160 Lg	4	493~603

Sub-plate

Valve Model No.	Sub-plate Model No.	Piping Size Rc	Mass kg
FG -02 FCG	FGM-02-20	1/4	2.3
	FGM-02X-20	3/8	
	FGM-02Y-20	1/2	
FG -03 FCG	FGM-03X-20	1/2	3.9
	FGM-03Y-20	3/4	
	FGM-03Z-20	1	
FG -06 FCG	FGM-06X-20	1	12.5
	FGM-06Y-20	1-1/4	
	FGM-06Z-20	1-1/2	
FG -10 FCG	FGM-10Y-20	1-1/2 or 2 Flange Mounting※	37

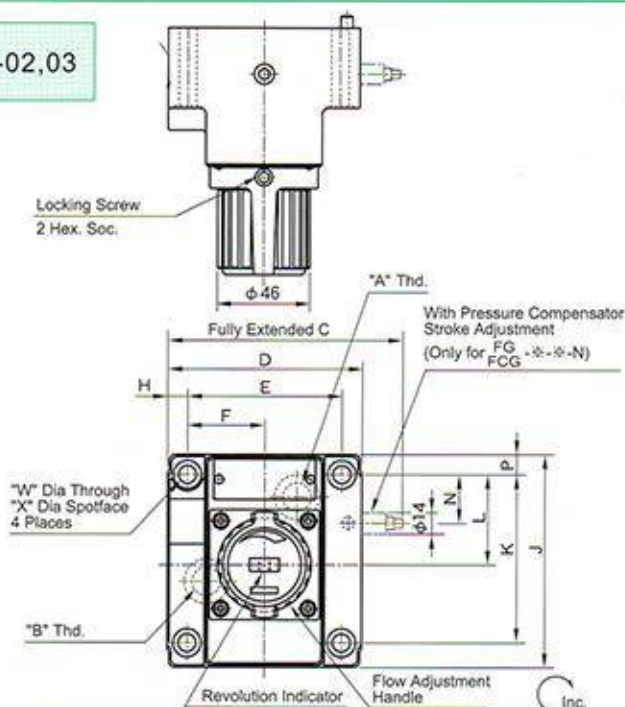
Sub-plates are available. When ordering, please specify sub-plate model no. from the table above. Please refer to page 76 for dimensions.

※ When ordering FGM-10Y, please see type F3 series pipe flanges.

Flow Control Valves Flow Control & Check Valves

Max. Pressure 21 MPa

FG
FCG -02,03



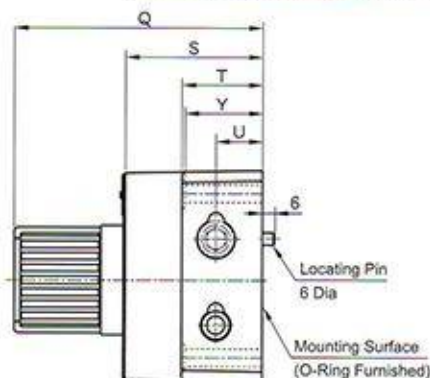
Mounting Surface:

F※G-02:ISO 6263-AB-06-4-B-87

F※G-03:ISO 6263-AK-07-2-A-87

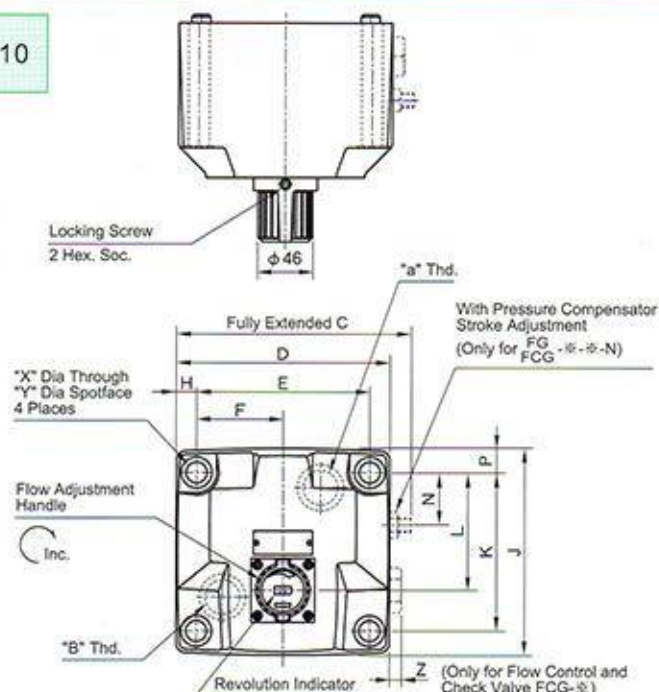
Note: For dimensions of mounting surface, please refer to FGM-02 & 03 type sub-plate on next page (page 76)

Model No.	"A" Thd.	"B" Thd.
FG-02,03	Controlled Flow Inlet	Controlled Flow Outlet
FCG-02,03	Controlled Flow Inlet or Reversed Free Flow Outlet Port	Controlled Flow Outlet or Reversed Free Flow Inlet Port



Model No.	C	D	E	F	H	J	K	L	N	P	Q	S	T	U	V	W	X	Y
FG-02	116	96	76.2	38.1	9.9	104.5	82.6	44.3	24	9.9	123	69	40	23	1	8.8	14	39
FCG-03	145	125	101.6	50.8	11.7	125	101.6	61.8	29.8	11.7	152	98	64	41	2	11	17.5	63

FG
FCG -06,10

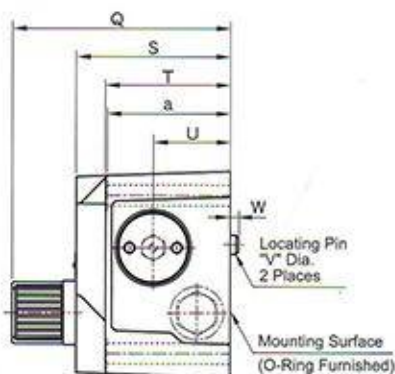


Mounting Surface:

F※G-06:ISO 6263-AP-08-2-A-87

Note: For dimensions of mounting surface, please refer to FGM-06 & 10 type sub-plate on next page (page 76)

Model No.	"A" Thd.	"B" Thd.
FG-06,10	Controlled Flow Inlet	Controlled Flow Outlet
FCG-06,10	Controlled Flow Inlet or Reversed Free Flow Outlet Port	Controlled Flow Outlet or Reversed Free Flow Inlet Port

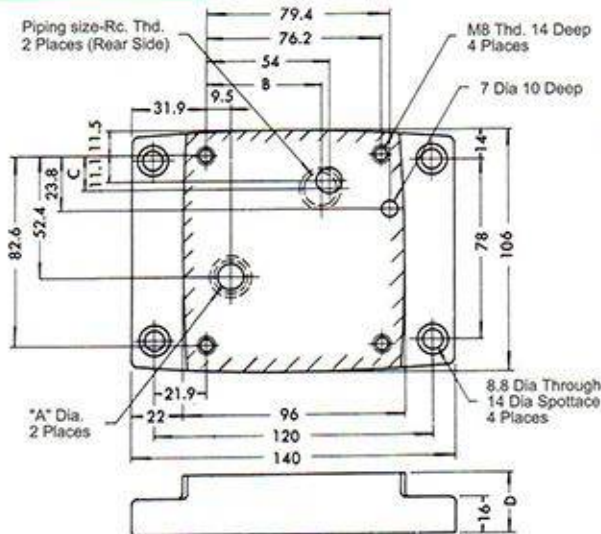


Model No.	C	D	E	F	H	J	K	L	N	P	Q	S	T	U	V	W	X	Y	Z	a
FG-06	198	180	146.1	73	17	174	133.4	99	44	20.3	184	130	105	65	16	7	17.5	26	9	103
FCG-10	267	244	196.9	98.5	23.5	228	177.8	144.5	61	25	214	160	137	85	18	10	21.5	32	7.5	133

Flow Control Valves Flow Control & Check Valves

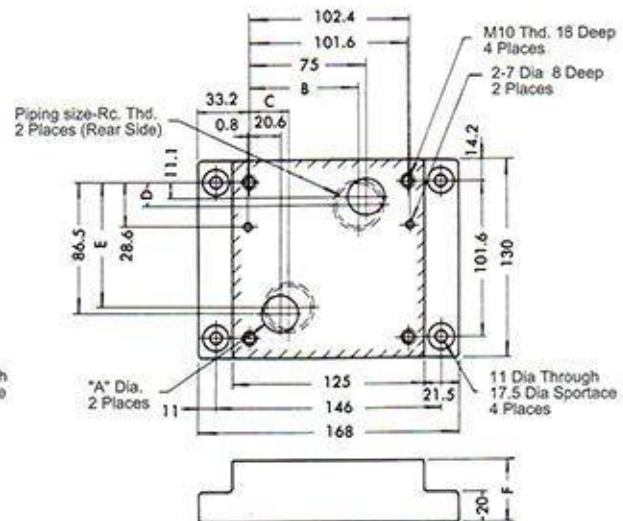
Max. Pressure 21 MPa

Sub-plate FGM-02, 02X, 02Y-20



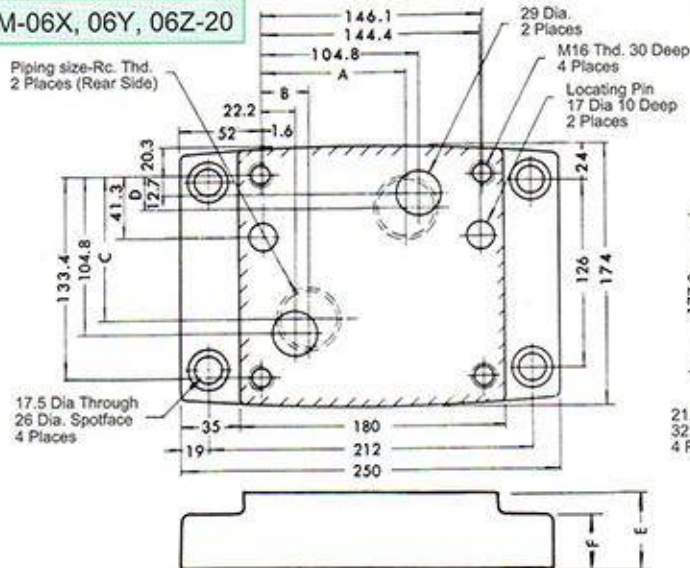
Model No.	Piping Size Rc	A	B	C	D
FGM-02-20	1/4	11	54	11.1	25
FGM-02X-20	3/8	14	54	11.1	25
FGM-02Y-20	1/2	14	51	14	35

FGM-03X, 03Y, 03Z-20



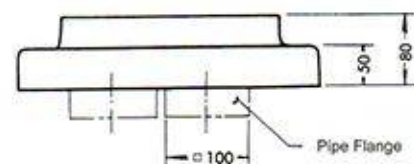
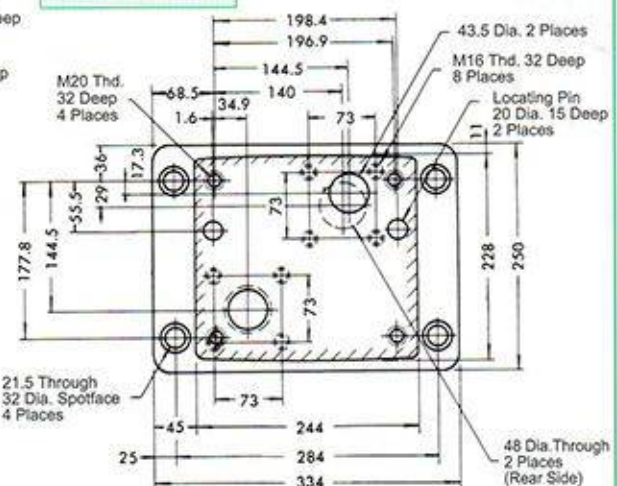
Model No.	Piping Size Rc	A	B	C	D	E	F
FGM-03X-20	1/2	17.5	75	20.6	11.1	86.5	25
FGM-03Y-20	3/4	23	70	25.6	16.1	81.5	40
FGM-03Z-20	1	23	70	25.6	16.1	81.5	40

FGM-06X, 06Y, 06Z-20



Model No.	Piping Size Rc	A	B	C	D	E	F
FGM-06X-20	1	104.8	22.2	104.8	18	45	35
FGM-06Y-20	1-1/4	99	34	99	23	60	40
FGM-06Z-20	1-1/2	99	34	99	23	60	40

FGM-10Y-20



Restrictors One Way Restrictors

Max. Pressure 21 MPa



SRG Type

Graphic Symbol



SRCG Type

Graphic Symbol



- These valves are used to regulate an actuator speed in a circuit where line pressure is almost steady and small fluctuation of oil flow due to pressure change is permitted.
- The valves with an integral check valve allow free oil flow from the outlet to the inlet port.

Specifications

Valve Size	Model No.	Rated Flow L/min	Mass kg
3/8	SRG-03-※-41	30	1.2
	SRCT-03-※-41		1.2
	SRCG-03-※-41		2.1
3/4	SRG-06-※-41	80	2.4
	SRCT-06-※-41		3.2
	SRCG-06-※-41		4.0
1 1/4	SRCT-10-※-41	200	7.1
	SRCG-10-※-41		8.1

※ SRT-03/06/10, SRG-10 stop production.

Model Number Designation

Series Number	SR G-03-※-41
SR : Restrictor	
SR C : One Way Restrictor	
Type of Connection	
T : Threaded Connection	
(Only for SRCT)	
G : Sub-plate Mounting	
Valve Size	
03, 06, 10	
Pressure Range	
H : Pressure Range 5~21 MPa	
L : Pressure Range 0.5~5 MPa	
Design Number	

Sub-plate

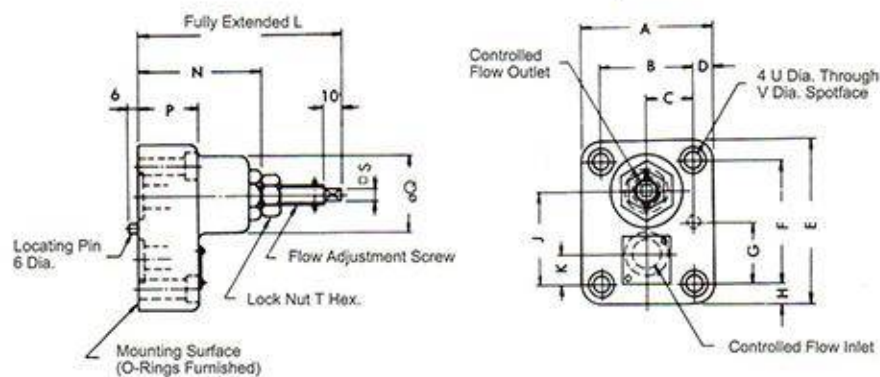
Valve Model No.	Sub-plate Model No.	Piping Size Rc	Mass kg
SRG-03	SRGM-03-40	3/8	1.2
SRCG-03			
SRG-06	SRGM-06-40	3/4	2.5
SRCG-06			
SRCG-10	SRGM-10-40	1 1/4	4.2

Sub-plates are available. When ordering, please specify sub-plate model no. from the table above.

Mounting Bolts (Attachment)

Model No.	Socket Head Cap Screw	Qty	Tightening Torque N·m
SRG-03	M8 x 35 Lg	4	31~38
SRCG-03	M8 x 60 Lg	4	
SRG-06	M10 x 45 Lg	4	60~74
SRCG-06	M10 x 70 Lg	4	
SRCG-10	M12 x 100 Lg	4	104~127

SRG-03, 06



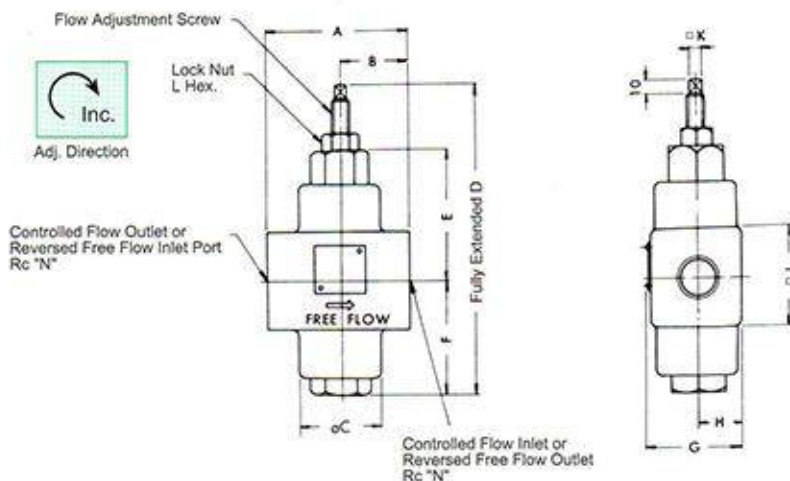
Model No.	A	B	C	D	E	F	G	H	J	K	L	N	P	Q	S	T	U	V	X
SRG-03	60	40	20	10	80	60	30	10	45	15	100	61	30	40	8	19	8.8	14	8.6
SRG-06	80	58	29	11	92	70	35	11	54	16	117.5	73	42	40	8	19	11	17.5	10.8

Note: For dimensions of mounting surface, please refer to SRGM type sub-plate (page 79).

Restrictors One Way Restrictors

Max. Pressure 21 MPa

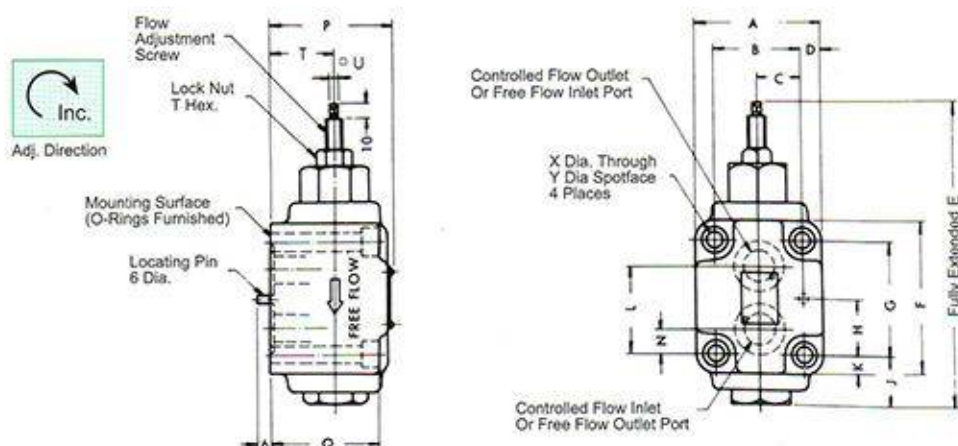
SRCT-03, 06, 10



Model No.	A	B	C	D	E	F	G	H	J	K	L	N
SRCT-03	70	35	40	151	60	58	42	20	40	8	19	3/8
SRCT-06	100	50	56	186	83	65	62	30	60	8	19	3/4
SRCT-10	130	65	70	228	106	77	82	40	80	10	22	1 1/4

Note: For dimensions of mounting surface, please refer to SRGM type sub-plate (page 79).

SRCG-03, 06, 10



Model No.	A	B	C	D	E	F	G	H	J	K	L	N	P	Q	T	U	V	X	Y	Z
SRCG-03	60	40	20	10	151	80	60	30	28	10	45	15	62	55	35	8	19	8.8	14	8.6
SRCG-06	80	58	29	11	186	92	70	35	30	11	54	16	74	68	40	8	19	11	17.5	10.8
SRCG-10	100	72	36	14	228	120	92	46	31	14	71	21	97	82	50	10	22	13.5	21	1

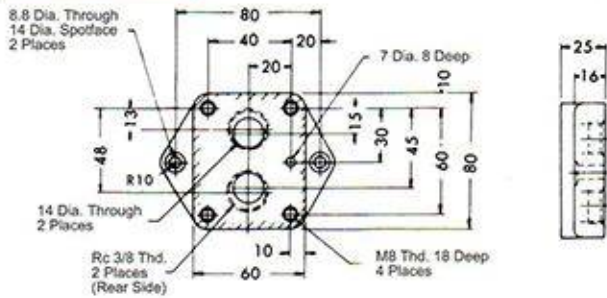
Note: For dimensions of mounting surface, please refer to SRGM type sub-plate (page 79).

Restrictors One Way Restrictors

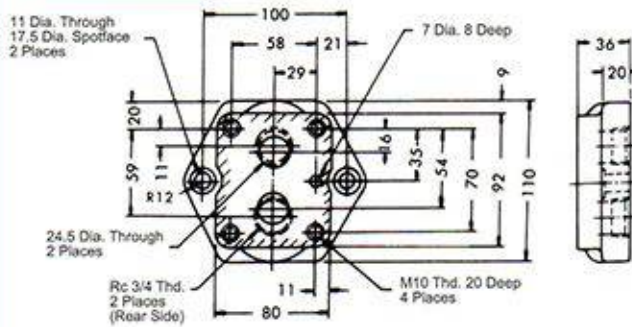
Max. Pressure 21 MPa

SUB-PLATE

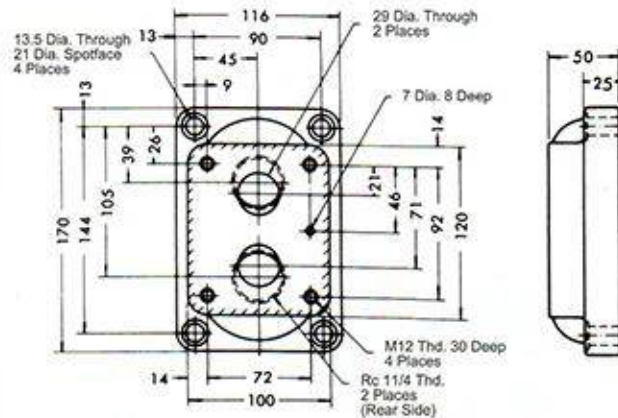
SRGM-03-40



SRGM-06-40



SRGM-10-40



C

Throttle Modules Throttle & Check Modules

Max. Pressure 25 MPa



TC1G-01



TC2G

These valves, when used in combination with a solenoid controlled pilot operated directional valve, regulate the speed of an actuator or control the change-over speed of the main spool by throttling the pressure port or the cylinder port.

Specifications

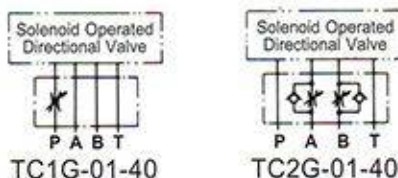
Valve Size	Model No.	Rated Flow L/min	Mass kg
1/8	TC1G-01-40	30	0.6
	TC2G-01-40		0.65

※ To count extra 25mm of screw length when mounting Solenoid Operated Directional Valves.

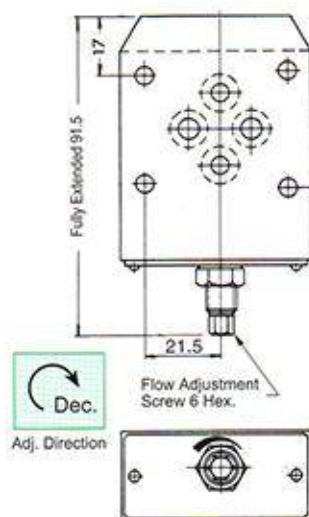
Model Number Designation

TC1G-01-40
 Series Number (Sub-plate mounting) TC1G: P Port Meter-in (C1)
 Design Number 01
 Valve Size 40
 TC2G: AB Port Meter-out (C2)

Graphic Symbol

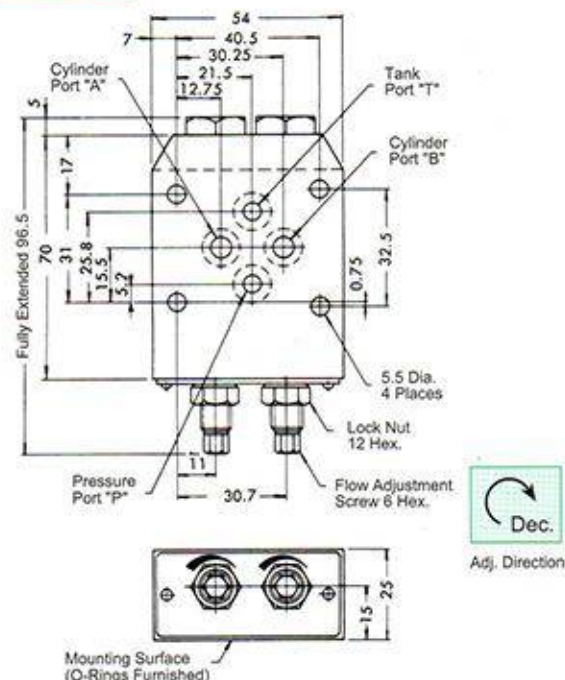


TC1G-01-40



For other dimensions, please refer to TC2G-01 type

TC2G-01-40



Needle Valves

Max. Pressure 35 MPa



These valves can be used as a stop valve or a throttle valve to control the flow in small capacity pipelines, or can be used as a shut-off valve in pressure gauge lines.

Specifications

Valve Size	Model No.	Max. Flow L/min	Mass kg
1/4	GCT-02-31 GCTR-02-31	5	0.34

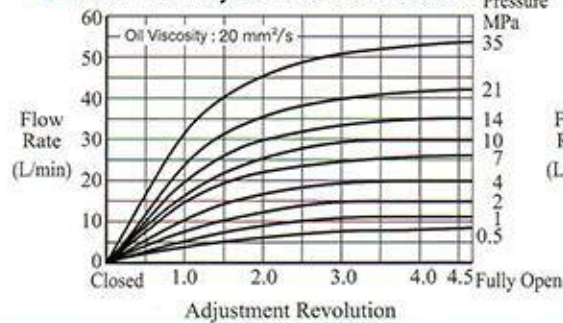
Model Number Designation

GCT-02-31
 Series Number (Threaded connection)
 GCT : In-line type
 GCTR : 90° Type
 Design Number
 Valve Size

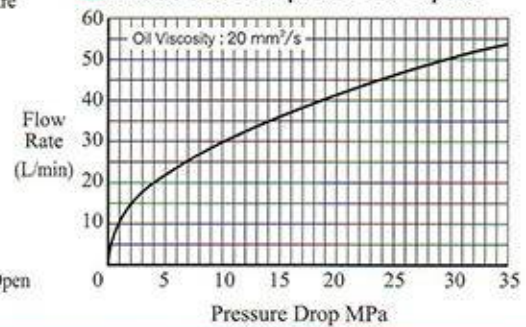
Graphic Symbol



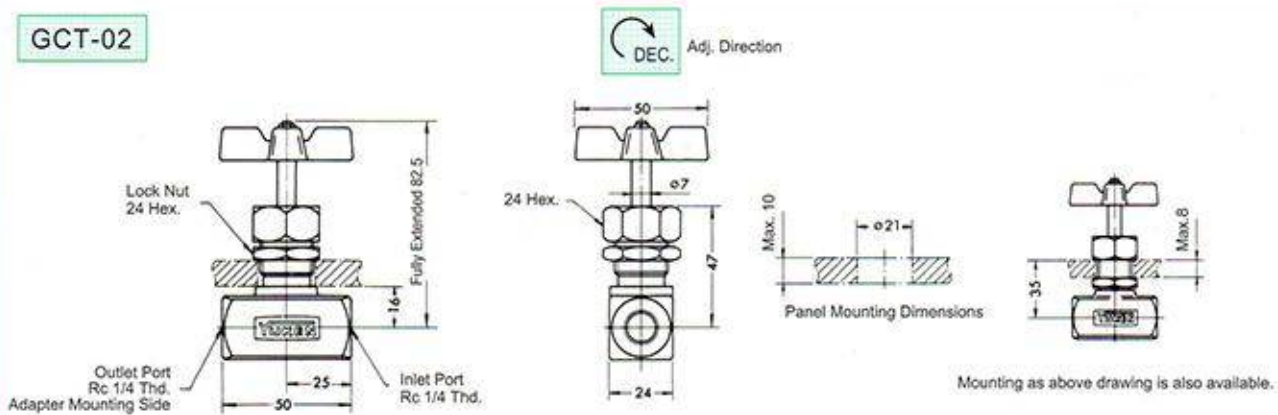
Flow vs. Adjustment Revolutions



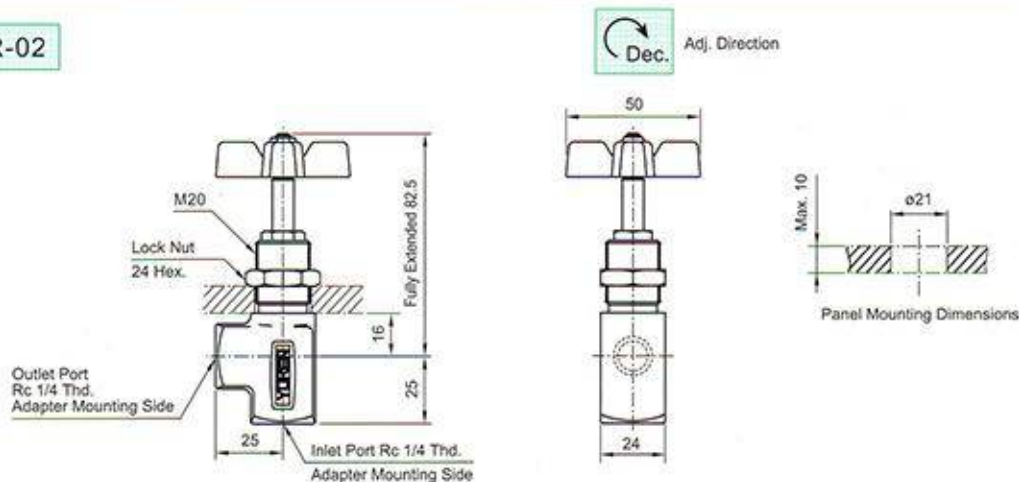
Pressure Drop at Full Open



GCT-02



GCTR-02



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