



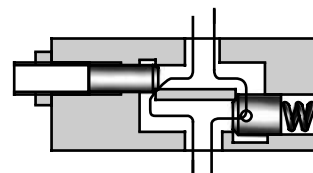
**THROTTLE MODULES**  
**TC1G-01 / 03 (1 / 8 , 3 / 8)**  
**THROTTLE AND CHECK MODULES**  
**TC2G-01 / 03 (1 / 8 , 3 / 8)**  
**Gasket Mounting**

**FLOW CONTROLS**

Specifications / Model Number Designation

Up to 25 MPa (3630 PSI), 80 L/min (21.1 U.S.GPM)

Used as pilot choke valves for solenoid controlled pilot operated directional valves and pilot operated directional valves.



Graphic Symbols

Valve Size	Throttle Modules		Throttle and Check Modules	
	Standard Type	With Check	Standard (Metre-out) Type	Metre-in Type
01	 Solenoid Operated Directional Valve P A B T TC1G-01	 Solenoid Operated Directional Valve P A B T TC1G-01-C	 Solenoid Operated Directional Valve P A B T TC2G-01	 Solenoid Operated Directional Valve P A B T TC2G-01-A
03	 Solenoid Operated Directional Valve P A B T TC1G-03	 Solenoid Operated Directional Valve P A B T TC1G-03-C	 Solenoid Operated Directional Valve P A B T TC2G-03	 Solenoid Operated Directional Valve P A B T TC2G-03-A

■ Specifications

Model Numbers	Nom inal Flow L/min (U.S.GPM)	Max Operating Pressure MPa (PSI)	Approx. Mass kg (lbs.)
TC1G-01-40/4090	30 (7.9)	25 (3630)	0.6 (1.3)
TC2G-01-40/4090			0.65 (1.4)
TC1G-03-*/40/4090	80 (21.1)		1.6 (3.5)
TC2G-03-*/40/4090			1.8 (4.0)

■ Model Number Designation

F-	TC1	G	-03	-C	-40	*
Special Seals	Series Number	Type of Mounting	Valve Size	Valve Type	Design Number	Design Standards
F-: Special Seals for Phosphate Ester Type Fluids (Omit if not required)	TC1: Throttle Module	G: Gasket Mounting	01	None: Std. Type	40	None: Japanese Std. "JIS" and European Design Std.  90: N. American Design Std.
	TC2: Throttle and Check Module			None: Std. (Metre-Out) Type		
	TC1: Throttle Module	G: Gasket Mounting	03	None: Std. Type C: With Check Valve	40	
	TC2: Throttle and Check Module			None: Std. (Metre-Out) Type A: Metre-in Type		



#### ■ Hydraulic Fluids

##### ● Fluid Types

Any type of hydraulic fluids listed in the table below can be used.

Petroleum base oils	Use fluids equivalent to ISO VG 32 or VG 46.
Synthetic fluids	Use phosphate ester or polyol ester fluid. When phosphate ester fluid is used, prefix "F-" to the model number because the special seals (fluororubber) are required to be used.
Water containing fluids	Use water-glycol fluid.

Note: For use with hydraulic fluids other than those listed above, please consult your Yuken representatives in advance.

##### ● Recommended Viscosity and Oil Temperatures

Viscosity ranging between 15 - 400 mm<sup>2</sup>/s (77 - 1800 SSU).

Oil temperatures between -15/+70°C (5 - 158°F).

Use hydraulic fluids which satisfy the recommended viscosity and oil temperatures given above.

##### ● Control of Contamination

Due caution must be paid to maintaining control over contamination of the hydraulic fluids which may otherwise lead to breakdowns and shorten the life of the valves. Please maintain the degree of contamination within NAS 1638-Grade 12. Use 25 μm or finer line filter.

#### ■ Attachment

##### ● Mounting Bolts

If mounting bolts are necessary, order suitable ones selected from the table below. If mounting bolts from other companies are used, their strength must be 8.8 or up ISO standards.

Solenoid Operated Directional Valve	Valve Model Numbers	Socket Head Cap Screw		Qty.
		Japanese Std. "JIS" & European Design Std.	N. American Design Std.	
	TC*G-01	M5 × 70 Lg.	No. 10-24 UNC × 2-3/4 Lg.	4
	TC*G-03	M6 × 70 Lg.	1/4-20 UNC × 2-3/4 Lg.	4
	TC*G-01	M5 × 95 Lg.	No. 10-24 UNC × 3-3/4 Lg.	4
	TC*G-03	M6 × 100 Lg.	1/4-20 UNC × 4 Lg.	4

#### ■ Instructions

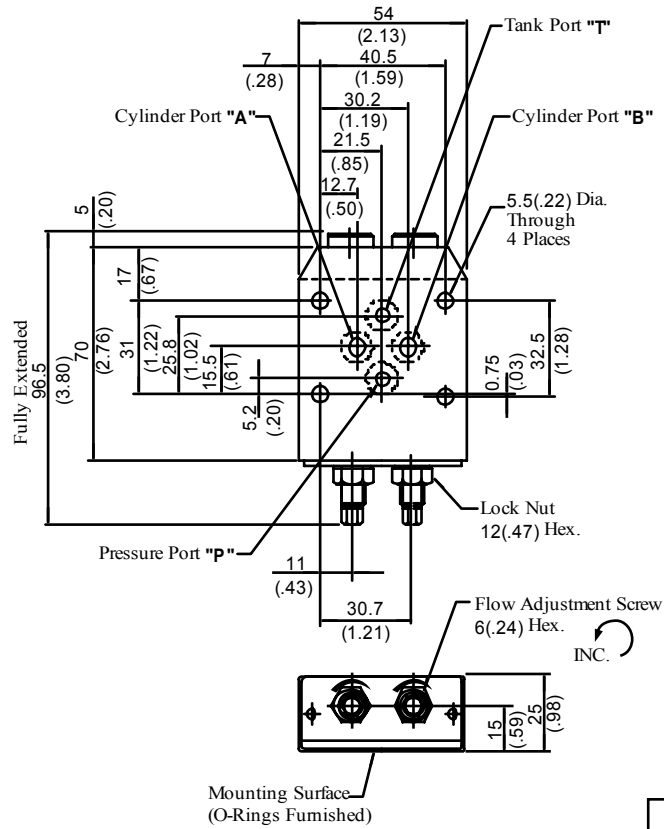
##### ● Flow adjustment

Slacken the lock nut and turn the flow adjustment screw clockwise caused the flow rate to decrease

After adjustment, be sure to tighten the lock nut.

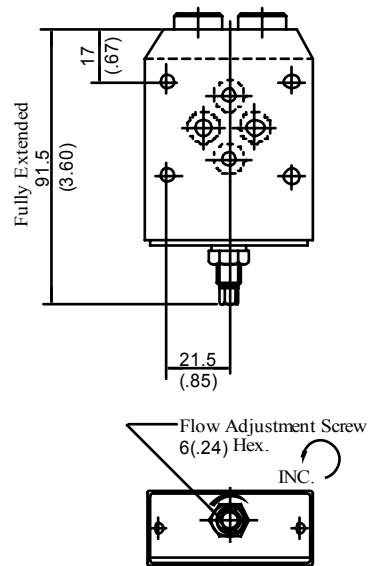
TC2G-01-40/4090

Mounting surface: ISO 4401-AB-03-4-A



**DIMENSIONS IN  
MILLIMETRES (INCHES)**

TC1G-01-40/4090

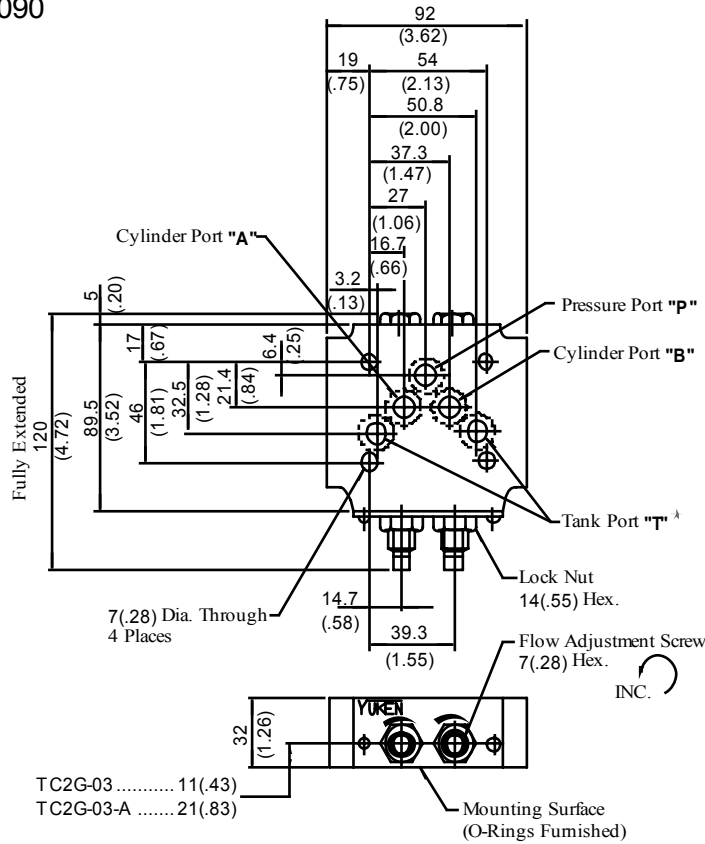


Note: For other dimensions, see the figures shown TC2G-01.

**D**

TC2G-03-40/4090  
TC2G-03-A-40/4090

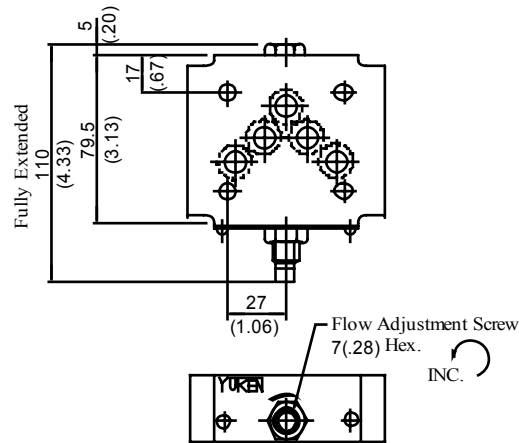
Mounting surface: ISO 4401-AC-05-4-A



★ With standard sub-plates, the left one of the two tankports "T" is used but either one may be used.

**DIMENSIONS IN  
MILLIMETRES (INCHES)**

TC1G-03-40/4090  
TC1G-03-C-40/4090

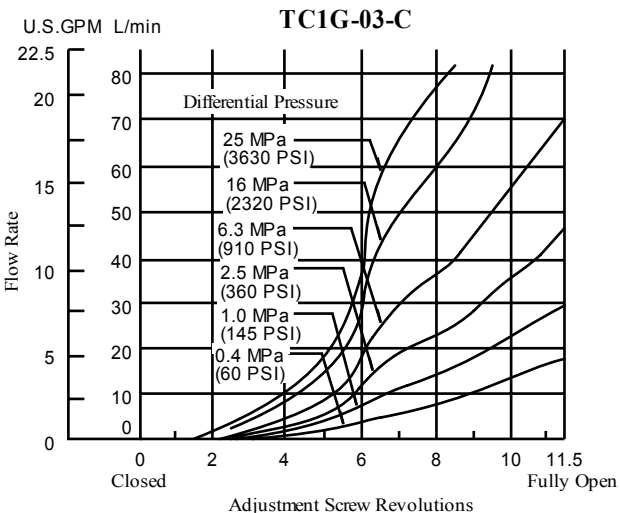
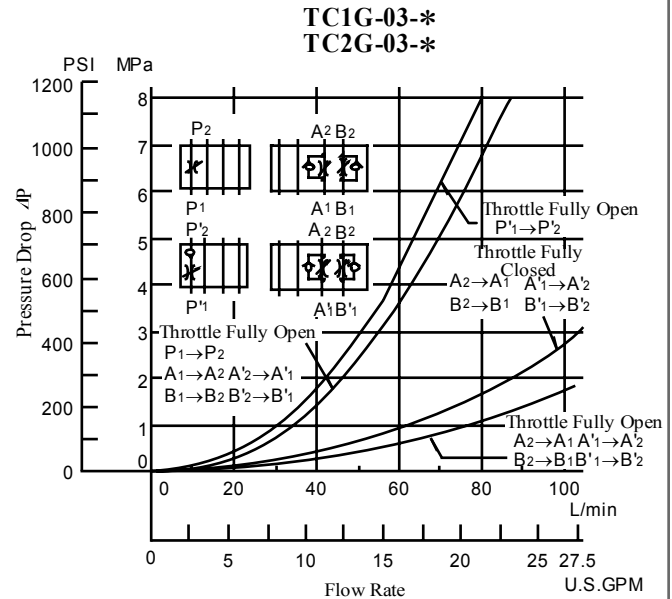
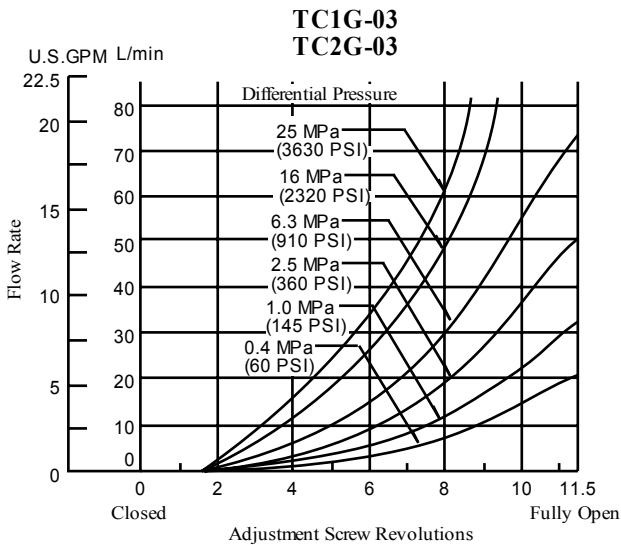
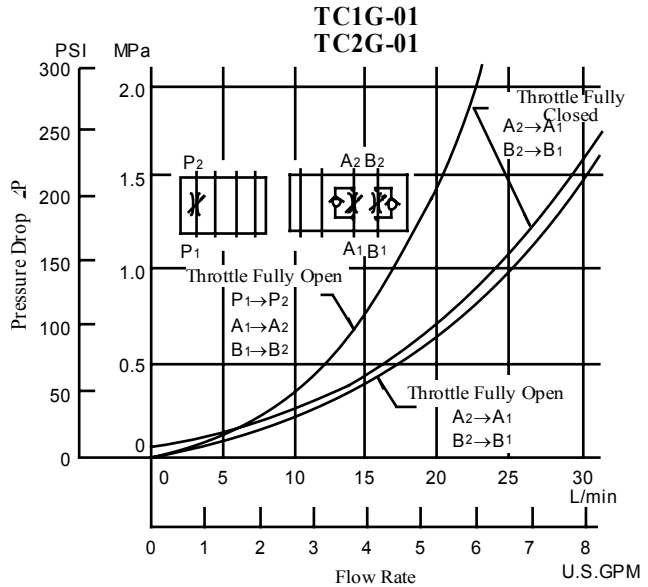
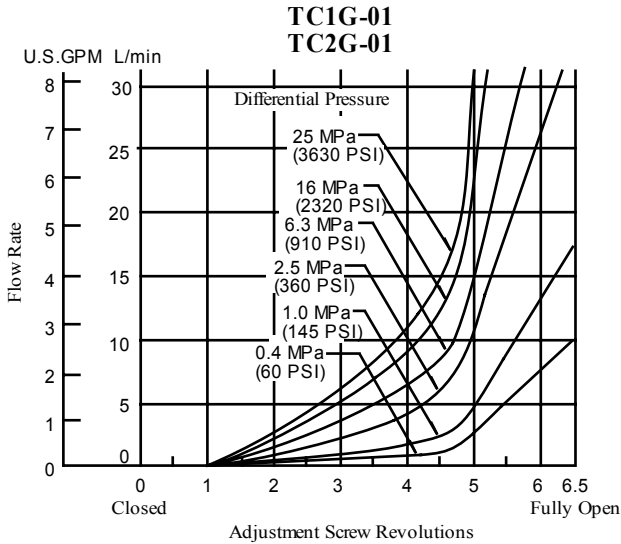


Note: For other dimensions, see the figures shown TC2G-03.

Hydraulic Fluid: Viscosity 35 mm<sup>2</sup>/s (164 SSU), Specific Gravity 0.850

■ Metred Flow vs. Adjustment Revolutions

■ Pressure Drop



- For any other viscosity, multiply the factors in the table below.

Viscosity	mm <sup>2</sup> /s	15	20	30	40	50	60	70	80	90	100
	SSU		77	98	141	186	232	278	324	371	417
Factor		0.81	0.87	0.96	1.03	1.09	1.14	1.19	1.23	1.27	1.30

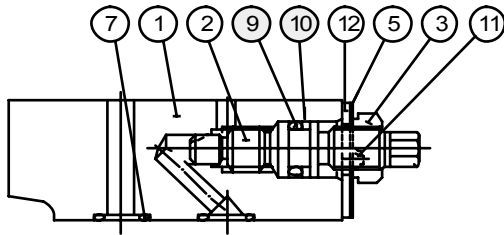
- For any other specific gravity (G'), the pressure drop (ΔP') may be obtained from the formula below.

$$\Delta P' = \Delta P (G'/0.850)$$

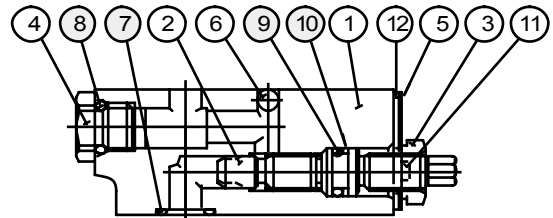
TC1G-01-40/4090  
TC1G-03-\* -40/4090

**CAUTION**

When making replacement of seals, please do it carefully after reading through the relevant instructions in the Operator's Manual.



TC1G-01



TC1G-03

● List of Seals

Item	Name of Parts	Part Numbers		Qty.
		TC1G-01	TC1G-03	
7	O-Ring	SO-NB-P9	SO-NB-A014	5 *
8	O-Ring	—	SO-NB-P10	1
9	O-Ring	SO-NA-P7	SO-NA-P9	1
10	BackUp Ring	SO-BB-P7	SO-BB-P9	1

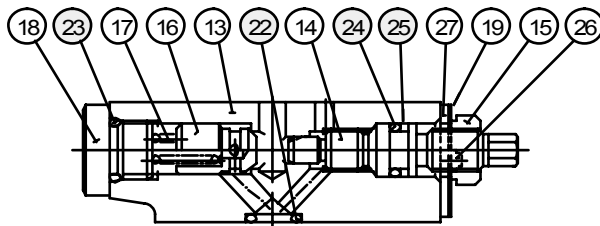
● List of Seal Kits

Model Numbers	Seal Kit Numbers
TC1G-01	KS-TC1G-01-40
TC1G-03	KS-TC1G-03-40
TC1G-03-C	

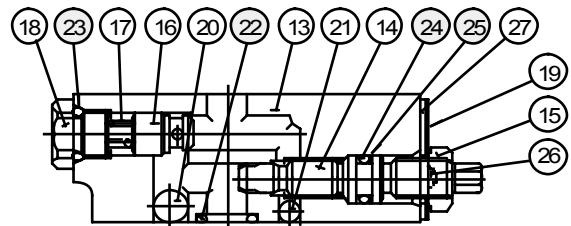
★ With TC1G-01, 4 O-Rings, Item ⑦, are used.

Note: When ordering the seals, please specify the seal kit number from the table right

TC2G-01-40/4090  
TC2G-03-\* -40/4090



TC2G-01



TC2G-03

● List of Seals

Item	Name of Parts	Part Numbers		Qty.
		TC2G-01	TC2G-03	
22	O-Ring	SO-NB-P9	SO-NB-A014	5 *
23	O-Ring	SO-NB-P10	SO-NB-P10	2
24	O-Ring	SO-NA-P7	SO-NA-P9	2
25	BackUp Ring	SO-BB-P7	SO-BB-P9	2

● List of Seal Kits

Model Numbers	Seal Kit Numbers
TC2G-01	KS-TC2G-01-40
TC2G-03	KS-TC2G-03-40
TC2G-03-A	

★ With TC2G-01, 4 O-Rings, Item ②, are used.

Note: When ordering the seals, please specify the seal kit number from the table right