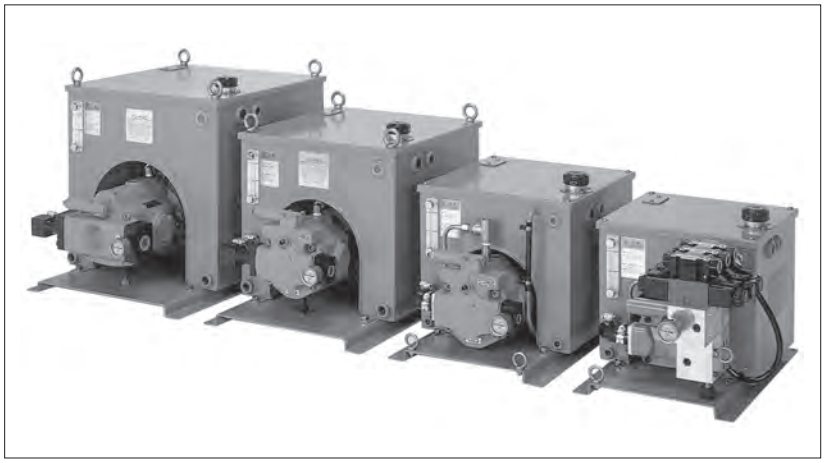
Low noise small power packages
TU-PAC



- The TU-PAC power package incorporates a unique inverted “U” shaped tank design which houses the electric motor and pump in a compact, lightweight, and low profile configuration.
- TU-PAC boasts high efficiency with good heat dissipation characteristics which allows use of lower oil volumes than comparable output units.
- Direct installation of manifold blocks are optional, leading to a easy configuration of a customer required hydraulic circuit by utilising the TGM-3 stack valves.
- Standard feature include filters on all types of return lines, leading to a longer operational life.
- Variety of options are available, including temperature gauge, magnet, level switch, manifold block, radiator, etc.

Model Code

TU3C-N(T)-(T)(M)(L)(S)(3)(C)(R)-1234

1	2	3	4	5	6	7	8	9	10	11	12

1 Small power package TU-PAC series
2 Model code (1C to 13C)
Refer to “Specifications” (page Q2-2).
3 Electric motor voltage code (see right table)
4 Solenoid valve voltage code (see right table)
Omit: No solenoid valve

[Option Codes]
5 Temperature gauge
Omit: not provided
T: With temperature gauge
6 Magnet
Omit: not provided
M: With magnet
7 Level switch
Omit: not provided
L: With level switch
8 Manifold block connection orientation (viewed from pump side)
Omit: not provided
S: Right side (TU1C - 7C)
F: Front (TU1C - 3C)
A: Special manifold block
☆ Consult Tokyo Keiki regarding TU8C - 13C with manifold block.
9 Manifold block stations (ISO4401-03 size)
Numbers indicate no. of stations
For type ‘S’, 1 to 5 stations
For type ‘F’, 2 to 4 stations

10 Paint color
Omit: Munsell N5.5
C: Special paint
11 Radiator (drain cooler)
Omit: not provided
R: With radiator (drain cooler)
12 Control no.

Electric motor voltage code

	Code	Power Supply
Standard	N	200/200/220 V 50/60/60 Hz
* Special	A	400/400/440 V 50/60/60 Hz
	B	380 V 50 Hz
	F	415 V 50 Hz
	D	460 V 60 Hz

* Special voltage is for option.
Voltages other than those shown are available. Advise Tokyo Keiki of the supply voltage and frequency.

Solenoid valve voltage code

Power Supply	Code	Voltage V	Frequency Hz
AC	T	100	50/60
		110	60
	B	110	50
		115	60
		120	60
	V	200	50/60
		220	60
	D	220	50
		230	60
		240	60
DC	G	12	—
	H	24	

Specifications

	Model Code	Electric Motor	Piston Pump Displacement cm^3/rev	Rated Working Pressure *1 (no radiator) MPa	Max. Working Pressure *2 (w/radiator) MPa	Max. Delivery *3 L/min		Tank Capacity L	Weight *4 kg
						50 Hz	60 Hz		
C Series	TU1C	0. 75 kW, 4P	8	3. 5	—	11	13. 2	10	35
	TU2C	1. 5 kW, 4P		7. 0	—			15	45
	TU3C		16	3. 5	—	22	26. 4		53
	TU4C	2. 2 kW, 4P		6. 0	10. 0 *3			25	70
	TU5C		21	4. 0	7. 0 *3	29	34. 6		
	TU6C	3. 7 kW, 4P	16	9. 0	14. 0 *3	22	26. 4	40	90
	TU7C		21	7. 0	10. 5 *3	29	34. 6		
	TU8C		31	5. 0	7. 0 *3	42. 6	51. 0		98
	TU9C	5. 5 kW, 4P		7. 0	10. 0 *3			60	130
	TU10C		40	*5	7. 0 *3	54. 9	65. 9		144
	TU11C	7. 5 kW, 4P	31	9. 0	10. 0 *3	42. 6	51. 0		130
	TU13C		40	*5	9. 0 *3	54. 9	65. 9		144

Note:
*1 Talbe indicates working pressure at maximum delivery at 50 Hz within motor rating.
*2 Pressure in which oil temperature rise is held within +20°C of room temperature under continuous cutoff operation with radiator. Refer to Oil Temperature Rise Characteristics (page Q2-3).
*3 Relationship of operating delivery and pressure, see graphs under Model Selection (Q2-4 - Q2-5).
*4 Hydraulic fluid and manifold block not included.
*5 Radiator is provided as a standard feature for TU10C and TU13C.

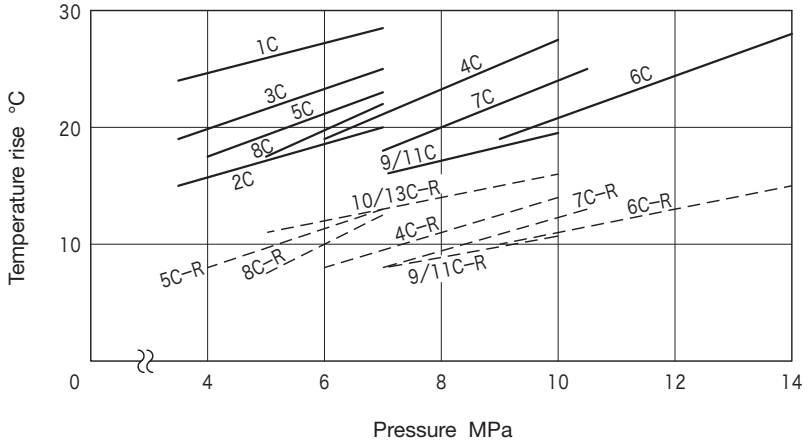
Notes

1) Consult Tokyo Keiki for TU-PAC units compliant to Japanese Fire Service Act, CE marking, non-flammable fluids (water glycol, fatty acid ester), etc.
2) ON-OFF electric motor drive operation involves special specifications. Consult Tokyo Keiki.
3) Consult Tokyo Keiki for other special specifications.
4) CMC or CM pump controls are standard. See pages A4-3 to A4-5 regarding other control options.

Note: • CBC is standard pump control for TU1C/TU2C.
• CM is standard pump control for TU8C/TU9C/TU11C.

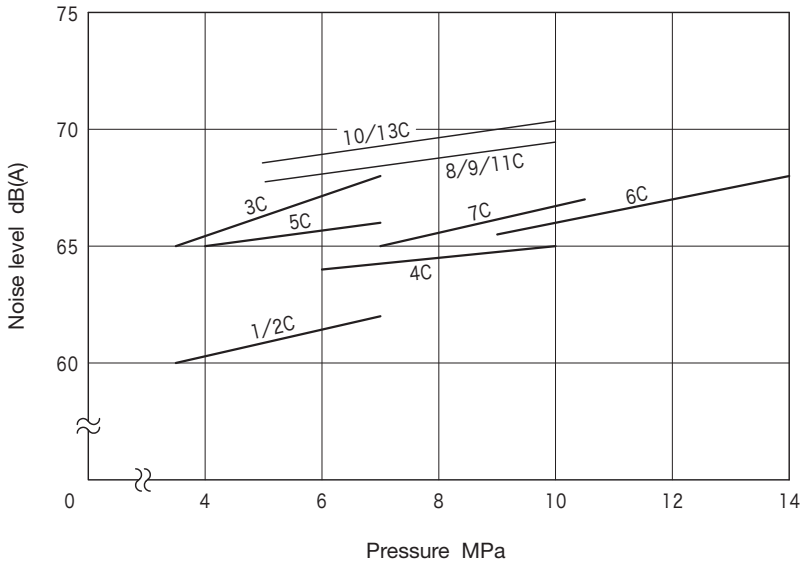
CMC/CBC: Pressure compensation control with maximum displacement volume adjustment function
CM: Pressure compensation control

Oil Temperature Rise Characteristics



(1) Tank oil temperature = room temperature + temperature rise
(2) Solid line indicates without radiator; dotted line (R) indicates performance with radiator.
(3) Data based on power unit installation in well ventilated location, continuous cutoff operation at 60 Hz.
Note: The actual oil temperature rise may differ from the values given above depending on the usage conditions and ambient environment conditions.

Noise Characteristics



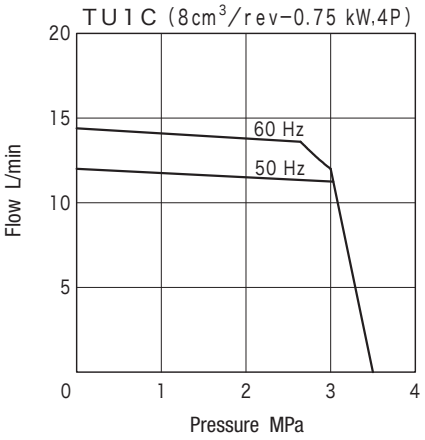
(1) Setting distance: 1 m (5 area average of cutoff operation)
(2) Speed: 1800 min^{-1} (60 Hz)
(3) Oil temperature: 40°C
Note: The actual noise characteristics may differ from the values given above depending on the installation conditions.

TU1C - 13C series

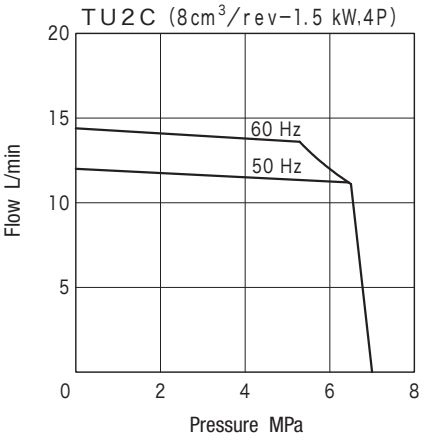
Model Selection　Pressure-Flow-Electric Motor Output Curves (TU1C - TU8C)

Applicable pressure-flow-electric motor output for each model is the area delineated by the curve.
Select model based on the pressure and flow to be used and which falls within this area.

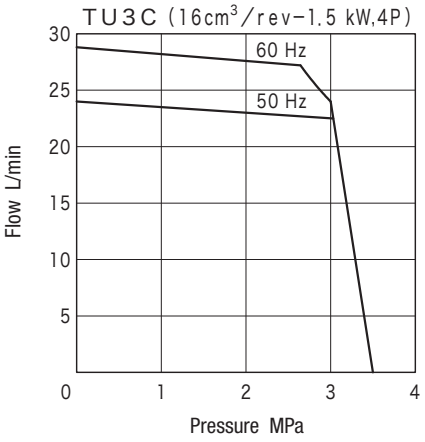
TU1C (8cm³/rev-0.75 kW,4P)



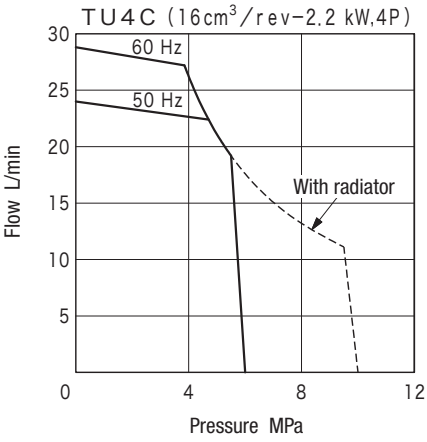
TU2C (8cm³/rev-1.5 kW,4P)



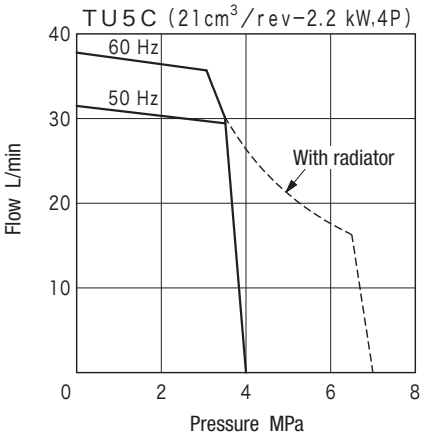
TU3C (16cm³/rev-1.5 kW,4P)



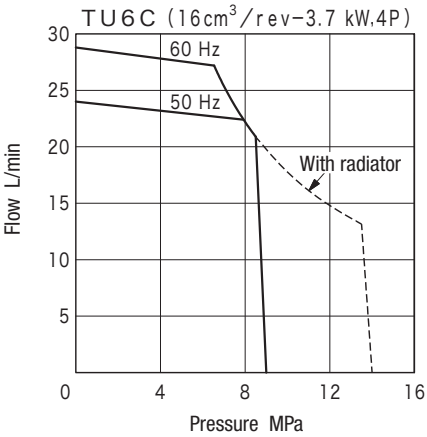
TU4C (16cm³/rev-2.2 kW,4P)



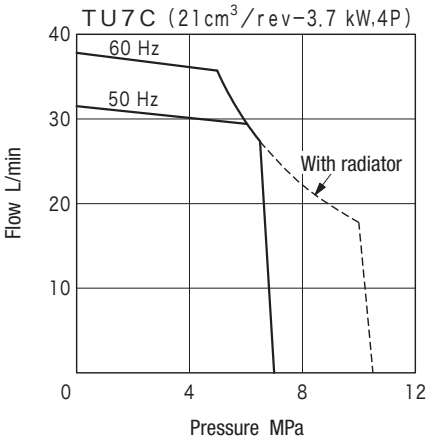
TU5C (21cm³/rev-2.2 kW,4P)



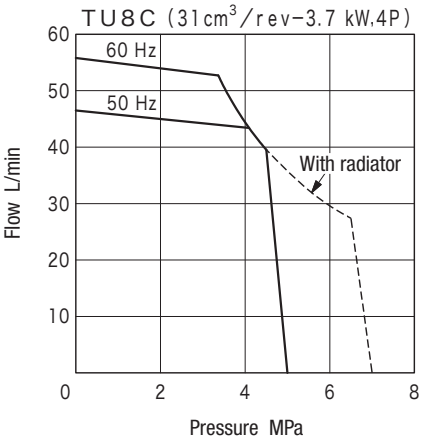
TU6C (16cm³/rev-3.7 kW,4P)

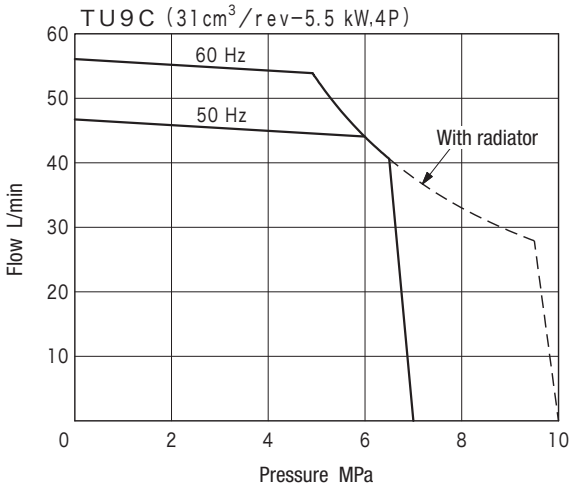


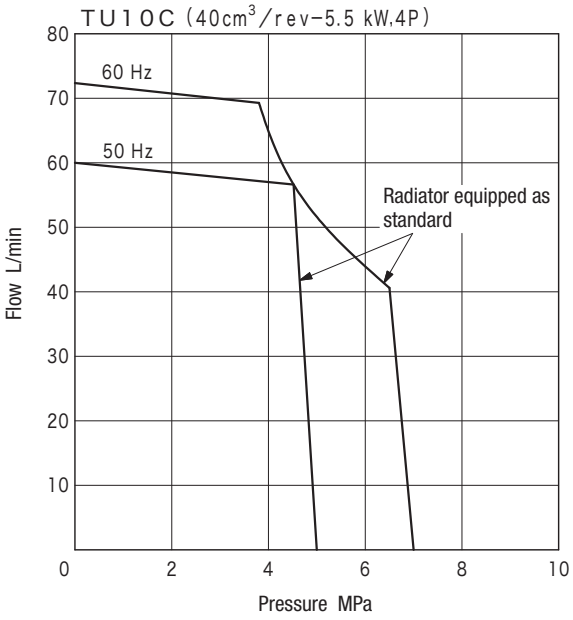
TU7C (21cm³/rev-3.7 kW,4P)

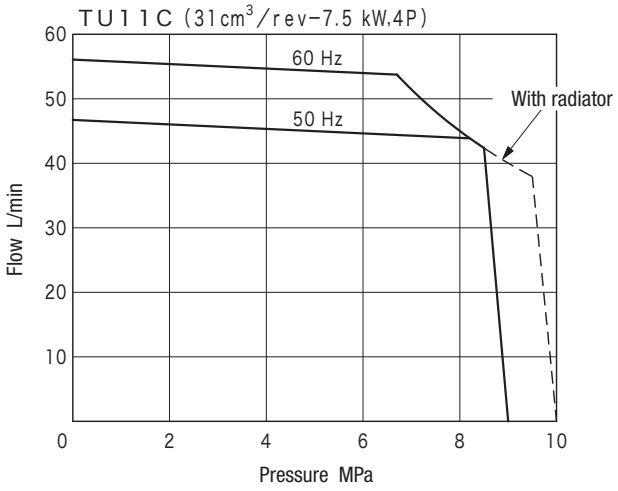


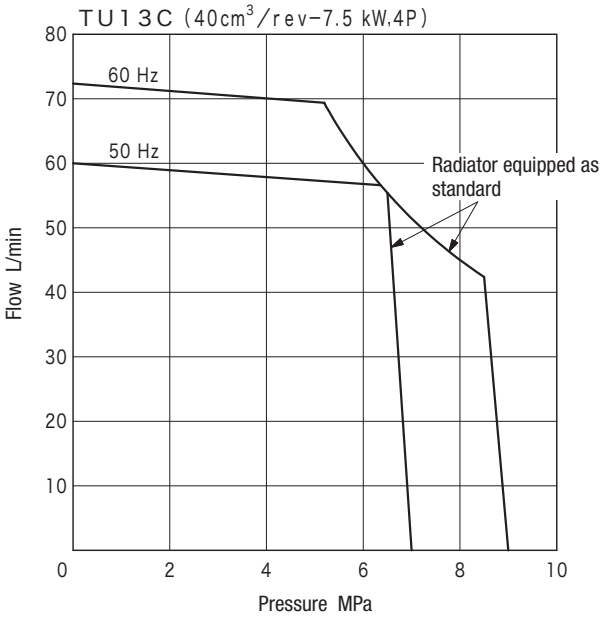
TU8C (31cm³/rev-3.7 kW,4P)




TU9C (31cm³/rev-5.5 kW,4P)
60 Hz
50 Hz
With radiator
Flow L/min
Pressure MPa
0
2
4
6
8
10
10
20
30
40
50
60

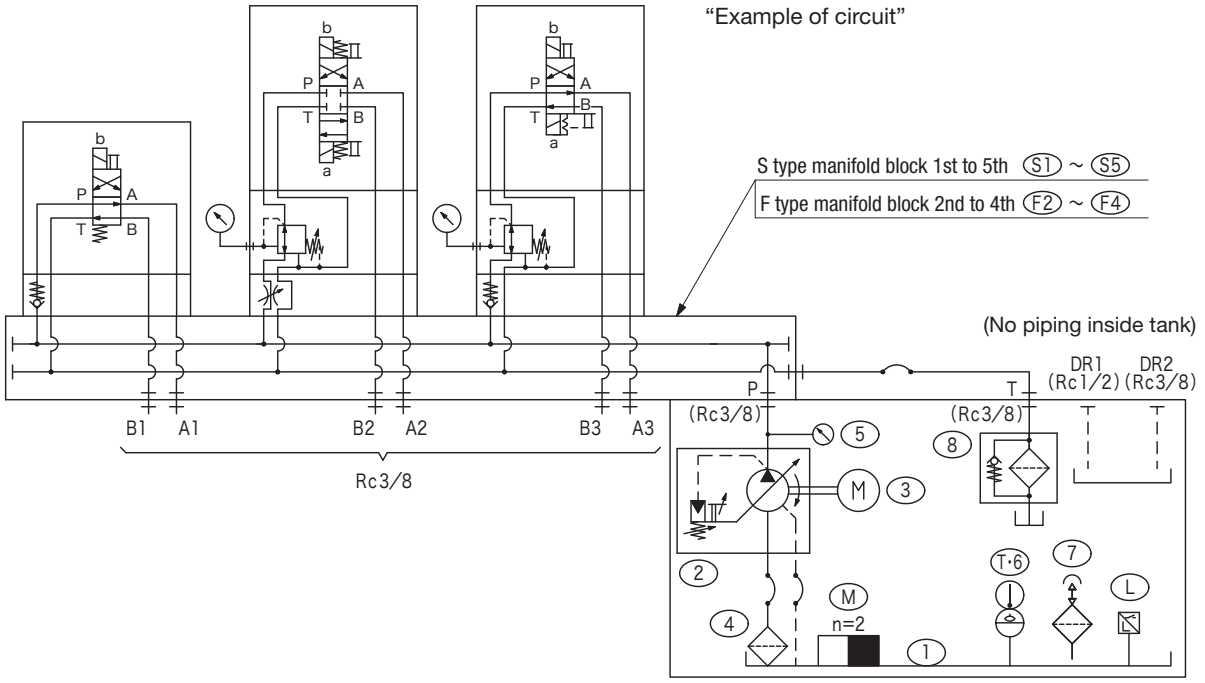

TU10C (40cm³/rev-5.5 kW,4P)
60 Hz
50 Hz
Radiator equipped as standard
Flow L/min
Pressure MPa
0
2
4
6
8
10
10
20
30
40
50
60
70
80


TU11C (31cm³/rev-7.5 kW,4P)
60 Hz
50 Hz
With radiator
Flow L/min
Pressure MPa
0
2
4
6
8
10
10
20
30
40
50
60


TU13C (40cm³/rev-7.5 kW,4P)
60 Hz
50 Hz
Radiator equipped as standard
Flow L/min
Pressure MPa
0
2
4
6
8
10
10
20
30
40
50
60
70
80

TU1C - 3C series

Hydraulic Circuit Diagram



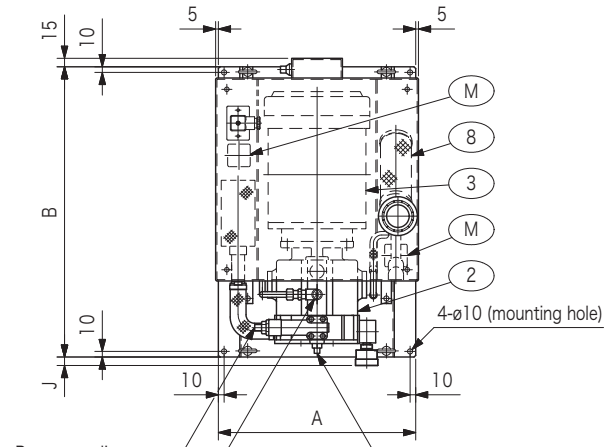
Code	Device Name	Model Code			Quantity
		TU1C	TU2C	TU3C	
1	Oil Tank	10 L	15 L		1
2	Piston Pump	P8VM (8 cm^3/rev)		P16VM (16 cm^3/rev)	1
3	Direct Coupled Electric Motor	0. 75 kW, 4 P	1. 5 kW, 4 P		1
4	Strainer	OFS-06-S1-M1 (150 μm)			1
5	Pressure Gauge (glycerin filled)	φ40×10 MPa	φ40×25 MPa	φ40×10 MPa	1
T·6	Oil Level Gauge (T: with temperature gauge)	OLG(T)2-100K (T: option)			1
7	Oil Fill Port and Air Breather	MSA-V30			1
8	Filter	51-500400 (10 μm)			1
M	Magnet	MG40 (option)			2
L	Level Switch	T-LSN, AC 100 V, 0. 1 A / DC 24 V, 0. 05 A (T: option)			1
S*	Manifold Block (connection port orientation: right side)	1st to 5th (option)			1
F*	Manifold Block (connection port orientation: front)	2nd to 4th (option)			1

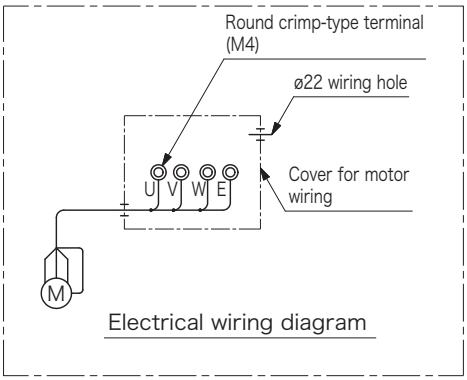
Dimensions (K and L indicates fluid volume)

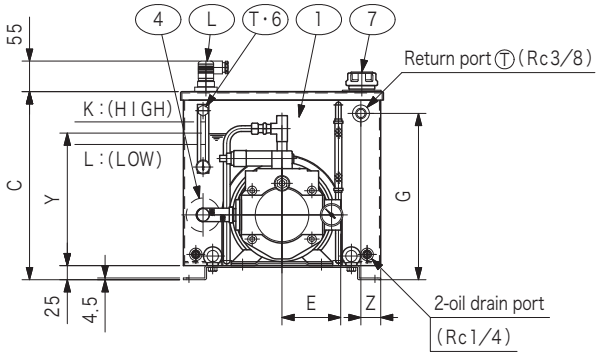
	A	B	C	D	E	F	G	H	J	K	L	M	P	Q	R	S	T	U	V	W	Y	Z
TU1C	320	465	307	390	80	105	270	185	-14	11. 9L	8. 1L	395	169	126	450	55	21	277	400	155	210	32. 5
TU2C	350	515	337	444	85	115	295	235	-10	17. 4L	12. 6L	449	179	126	504	55	26	287	454	165	235	35
TU3C	350	515	337	469	104	115	295	235	15	17. 4L	12. 6L	474	179	145	529	80	45	287	479	165	235	35

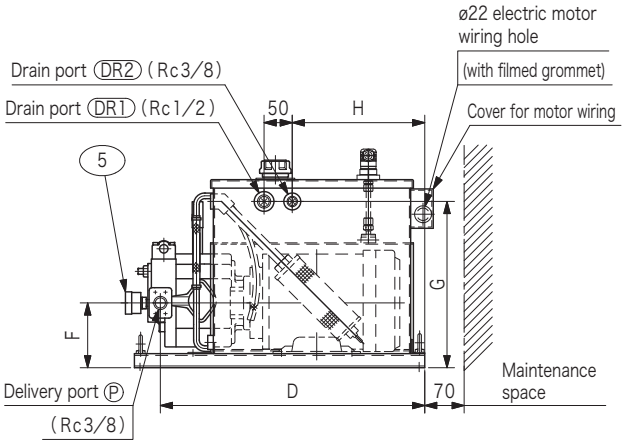
Dimensions (TU1C - 3C)

● Standard



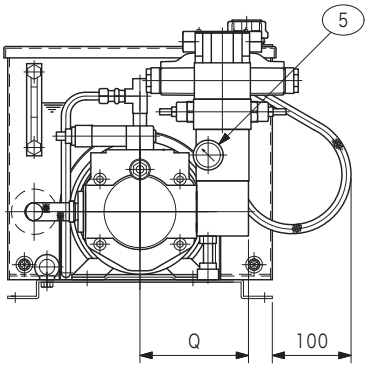


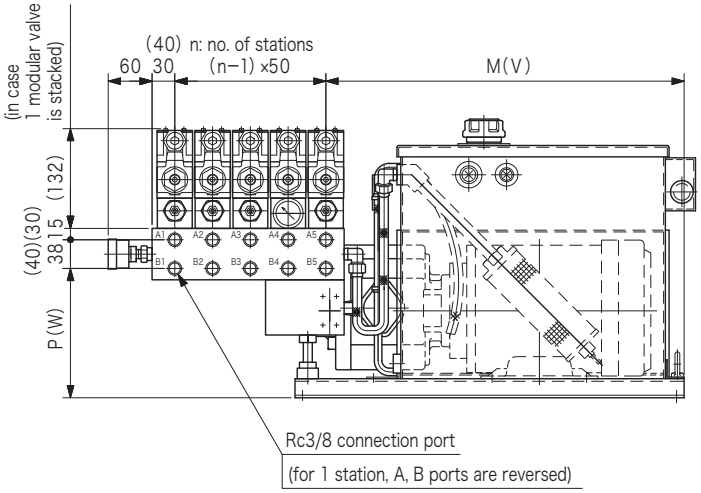




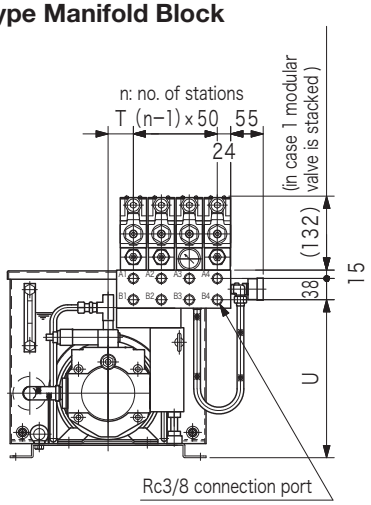
● Model with 'S' Type Manifold Block (1 - 5 stations)

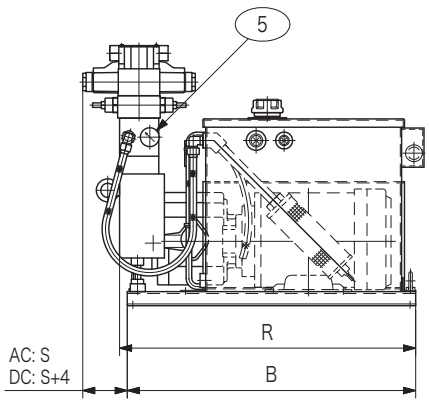
Note: Dimensions in ( ) refer to 1 station.





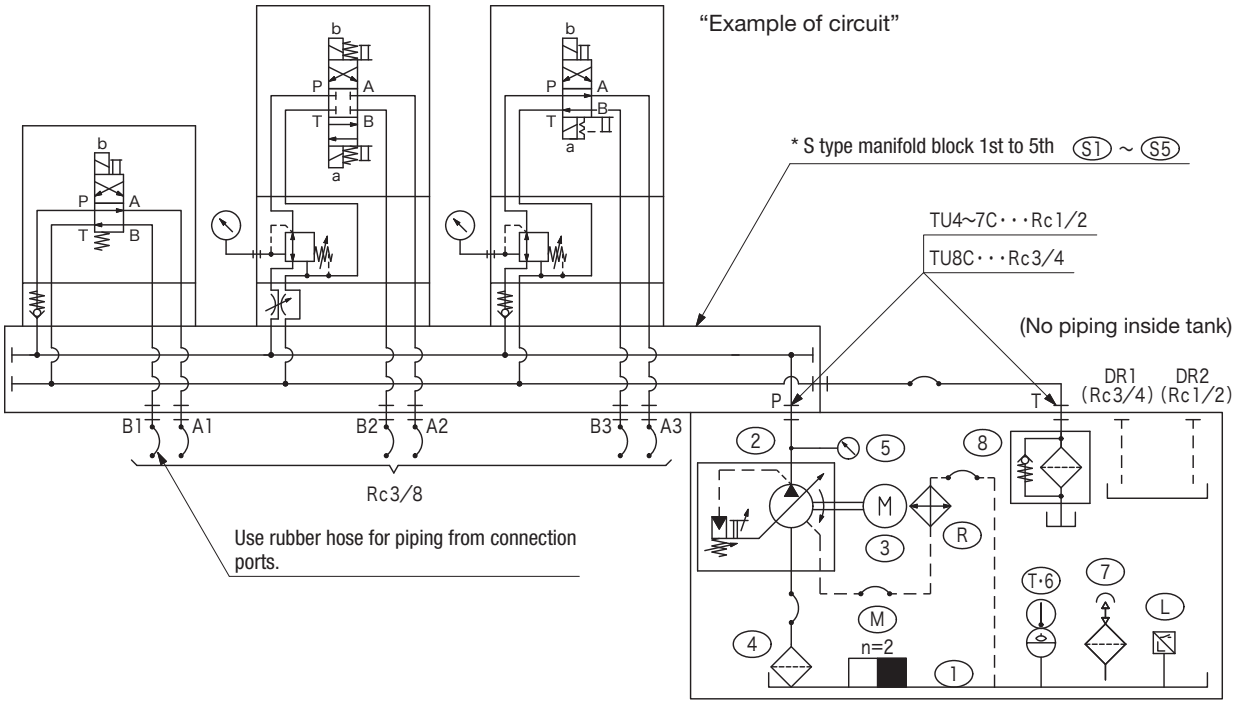
● Model with 'F' Type Manifold Block (2 - 4 stations)





TU4C - 8C series

Hydraulic Circuit Diagram



* Note: Consult Tokyo Keiki for TU8C with manifold block.

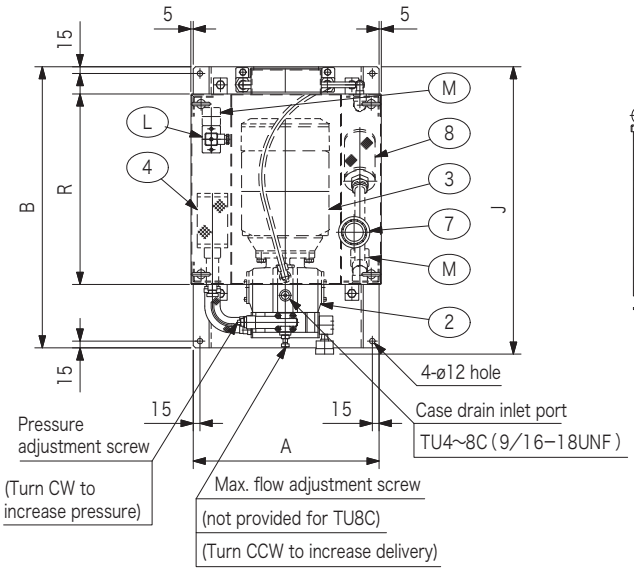
Code	Device Name	Model Code					Quantity
		TU4C	TU5C	TU6C	TU7C	TU8C	
1	Oil Tank	25 L		40 L			1
2	Piston Pump	P16VM (16 cm^3/rev)	P21VM (21 cm^3/rev)	P16VM (16 cm^3/rev)	P21VM (21 cm^3/rev)	P31V (31 cm^3/rev)	1
3	Direct Coupled Electric Motor	2.2 kW, 4 P		3.7 kW, 4 P			1
4	Strainer	OFS-06-S1-M2 (150 μm)					1
5	Pressure Gauge (glycerin filled)	φ40×16 MPa		φ40×25 MPa		φ40×16 MPa	1
T·6	Oil Level Gauge (T: with temperature gauge)	OLG(T)2-100K (T: option)					1
7	Oil Fill Port and Air Breather	MSA-V30					1
8	Filter	Y-440600 (10 μm)					1
M	Magnet	MG40 (option)					2
L	Level Switch	T-LSN, AC 100 V, 0.1 A / DC 24 V, 0.05 A (option)					1
* S*	Manifold Block (side)	1st to 5th (option)					1
R	Radiator (drain cooler)	RA-4 (option)					1

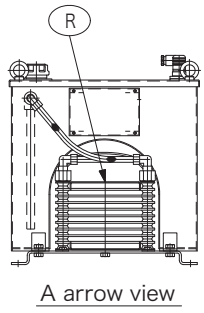
Dimensions (K and L indicates fluid volume)

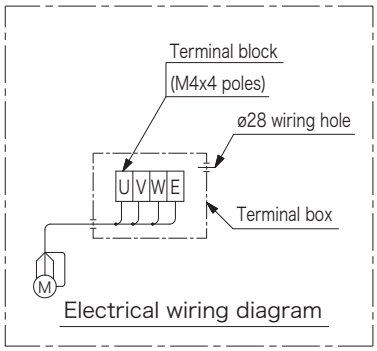
	A	B	C	D	E	F	G	H	J	K	L	M	P	R	S	V	W
TU4/5C	410	620	407	570	105	150	360	325	631	28.3L	21.7L	575	214	420	290	580	200
TU6/7C	460	670	477	620	105	162	430	375	681	44.2L	35.8L	625	226	470	360	630	212
TU8C	460	670	477	657	125	162	430	375	728	44.2L	35.8L	—	—	470	360	—	—

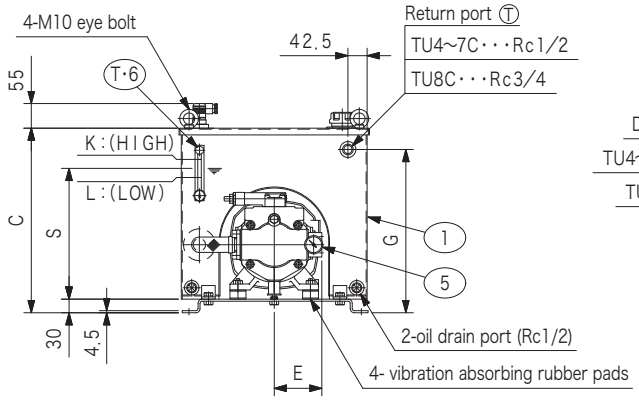
Dimensions (TU4C - 8C)

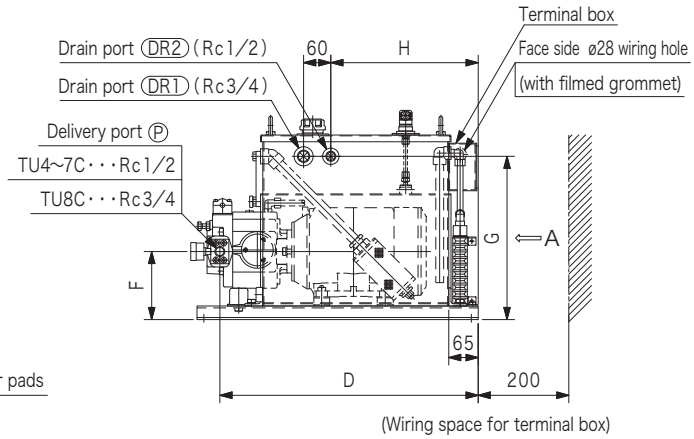
● Standard





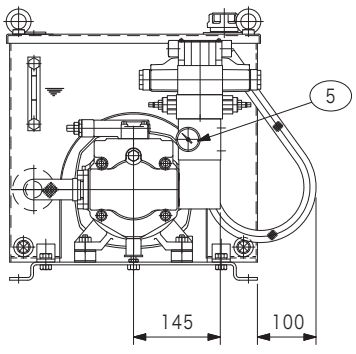


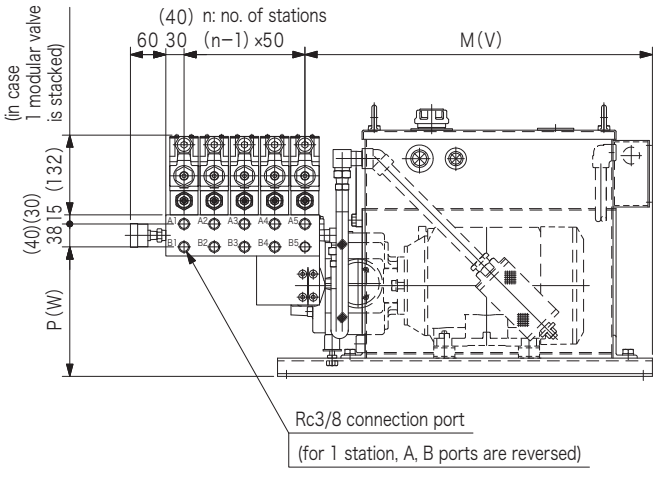




● Model with 'S' Type Manifold Block (1 - 5 stations)

Note: Dimensions in ( ) refer to 1 station.



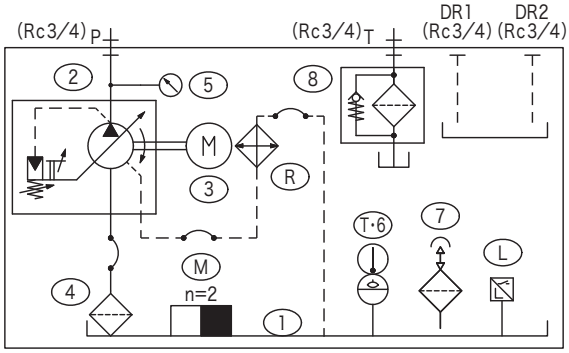


TU9C - 13C series

Hydraulic Circuit Diagram

"Example of circuit"

(No piping inside tank)



Note: Consult Tokyo Keiki for TU9C - 13C with manifold block.

Code	Device Name	Model Code				Quantity
		TU9C	TU10C	TU11C	TU13C	
1	Oil Tank	60 L				1
2	Piston Pump	P31V (31 cm^3/rev)	P40V (40 cm^3/rev)	P31V (31 cm^3/rev)	P40V (40 cm^3/rev)	1
3	Direct Coupled Electric Motor	5.5 kW, 4 P		7.5 kW, 4 P		1
4	Strainer	OFS-08-S1-M3 (150 μm)				1
5	Pressure Gauge (glycerin filled)	φ40×25 MPa				1
T·6	Oil Level Gauge (T: with temperature gauge)	OLG(T)2-100K (T: option)				1
7	Oil Fill Port and Air Breather	MSA-V30				1
8	Filter	Y-440600 (10 μm)				1
M	Magnet	MG40 (option)				2
L	Level Switch	T-LSN, AC 100 V, 0.1 A / DC 24 V, 0.05 A (option)				1
R	Radiator (drain cooler)	RA-4 (option)				1

Dimensions (TU9C - 13C)

Note: Dimensions in ( ) refer to TU9C and 11C.