爽クーラント
COOLANT PUMP

Sumitomo's Low-noise, High-pressure Coolant Series
prioritizes customers' needs.

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Safety Precautions
In order to operate the product correctly and safely, thoroughly read the Instruction Manual and make sure you understand the information provided before attempting to operate the product.

● The content of this catalog is subject to change without notice for technical improvements or other reasons.

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SUMITOMO HIGH PRESSURE

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SUMITOMO HIGH PRESSURE

COOLANT PUMP

Each pump of Sumitomo's Coolant Series with a wide pressure range strongly supports machining, thus contributing to the manufacture of high-precision products within a reduced processing time.

A coolant pump is used to supply liquid coolant that is indispensable to machining.
Each pump of the Coolant Series with a wide pressure range strongly supports machining,
thus contributing to the manufacture of high-precision products within a reduced processing time.
Furthermore, each pump of Sumitomo's So-Coolant Series is characterized by its low-noise operation and space-saving features,
thus demonstrating an excellent effect in work environment improvements on-site.
These pumps can be under inverter control as well, which greatly contributes to energy saving,
and now they have become indispensable items on machining sites all over the world.
Sumitomo Precision Products Co., Ltd. offers a wide variety of products ranging from coolant pumps,
filter systems, and coolant units equipped with control equipment.
Sumitomo Precision Products Co., Ltd. as a total solution partner for high-pressure coolant systems will continue
supporting production sites around the world.

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List of Models

Model	CX	CQTM	E3P
Max Pressure	1500PSI	1500PSI	300PSI

List of Pumps

Max. operating pressure/ Discharge flow rate (usGPM)		300PSI	
50Hz	60Hz		
2.3	3.1	E3P	-10
3.4	4.2		-12.5
4.2	5.5		-16
5.2	7.1		-20
7.3	9.7		-25
9.7	13.2		-31.5

Max. operating pressure/ Discharge flow rate (usGPM.)		300PSI		500PSI		1000PSI		1500PSI	
50Hz	60Hz								
1.5	2.6			CX32 CQTM32	-10	CX33 CQTM33	-10	CX34 CQTM34	-10
2.6	3.6				-12.5		-12.5		-12.5
3.4	4.7				-16		-16		-16
4.4	6.6			CX42 CQTM42	-20	CX43 CQTM43	-20	CX44 CQTM44	-20
6.6	8.4				-25		-25		-25
8.4	11.3				-31.5		-31.5		-31.5
10.0	12.9			CQTM52	-40	CQTM53	-40	CQTM54	-40
14.0	17.9				-50		-50		-50
18.7	23.5				-63		-63		-63
22.1	28.2	CQTM51	-80	CQTM62	-80	CQTM63	-80	CQTM64	-80
29.5	37.2		-100		-100		-100		-100
38.0	47.5		-125		-125		-125		-125
50.9	62.0	CQTM61	-160						
65.5	—		-200						

* The discharge flow rate of each pump is an approximate value with water-soluble cutting fluid pumped at the maximum pressure of the pump. For details, see the Performance Table.

CX

SUMITOMO HIGH PRESSURE
COOLANT PUMP
Low-noise, Energy-saving, High-pressure Coolant Pumps

■CX

In response to the diversified needs of customers in the machining industry in recent years, Sumitomo Precision Products Co., Ltd. developed the CX Series, a lineup of low-noise, high-performance coolant pumps.
The structure of the CX Series with improved ease of maintenance and durability is based on that of the CQTM Series with excellent track records that attracted a large number of users.
Experience the unprecedented performance of the CX Series.

〈Features〉
① Improved ease of maintenance
・A change in the piping structure of the conventional product significantly reduced the required installation and replacement person-hours.
・Responding to emergency cases（Like the E3P, users can exchange the gear housing set.）
・No external drain piping is required.

②Improved durability（with a running cost reduction）
・Durability improvements are made by adopting ceramic material for a part of the bearing.

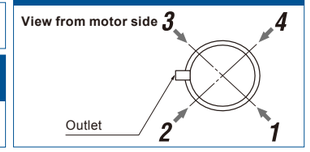
③Energy saving
・Energy saving is possible under inverter control.

④Compatible with overseas motor standards（US, EU, and China）

Pump Model Legend

CX 4 3-25-5.5-1-S※※※※-※

- **Basic model**
- **Pump size** (Number range) 3 to 4
- **Highest pressure indication**
  - 4:10M Series
  - 3:7M Series
  - 2:3.5M Series
- **Discharge flow rate indication** — Discharge flow rate (usGPM) with no load at 1000 min-1
- **Motor capacity** (1.5～11kW)
- **How to connect pump and motor**
  - −:Direct connection
  - +:Bell flange connection
- **Special item number**
- **Motor standard**
- **Relative positions of motor terminal box and pump outlet**

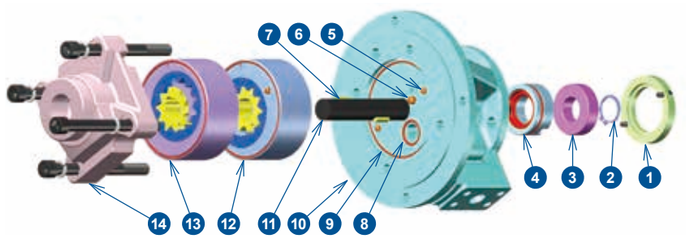


List of Pumps

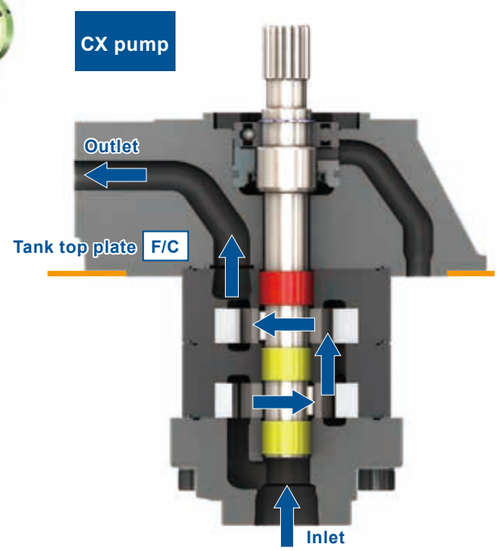
Discharge flow rate (usGPM) 50Hz	Discharge flow rate (usGPM) 60Hz	3.5M series 500PSI (35kgf/cm²)	7M series 1000PSI (70kgf/cm²)	10M series 1500PSI (100kgf/cm²)	Remarks
1.5	2.6	CX32-10	CX33-10	CX34-10	Used for both water-soluble and water-insoluble liquids
2.6	3.6	-12.5	-12.5	-12.5	
3.4	4.7	-16	-16	-16	
4.4	6.6	CX42-20	CX43-20	CX44-20	
6.6	8.4	-25	-25	-25	
8.4	11.3	-31.5	-31.5	-31.5	

* The discharge flow rate of each pump is an approximate value with water-soluble cutting fluid pumped at the maximum pressure of the pump. For details, see the Performance Table.

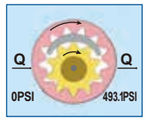
Structure



Sign	Quantity	Parts name
1	1	Bearing retainer
2	1	Snap ring
3	1	Ball bearing
4	1	Seal housing set
5	4	Pin
6	1	Pin
7	2	Key
8	1	O-ring
9	3	O-ring
10	1	Front cover
11	1	Shaft
12	1	Second gear housing assy
13	1	Front gear housing assy
14	1	End cover



3.5M series (35kgf/cm²)



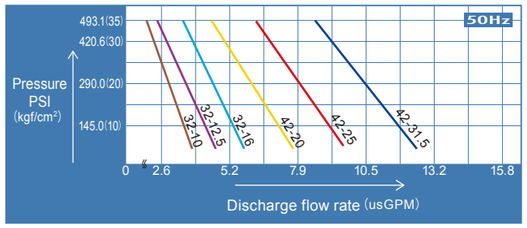
The 3.5M Series makes it possible to select economical pumps for systems operating at 435.1PSI（30 kgf/cm²）.

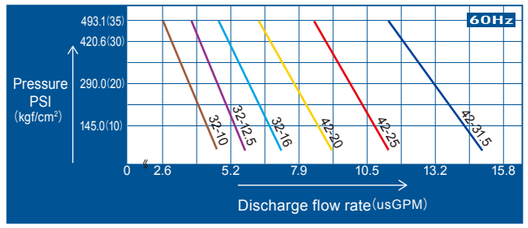
Performance Table

Rotation speed (min⁻¹)	Model No.		Discharge flow rate (usGPM) 145.0PSI (10kgf/cm²)	290.0PSI (20kgf/cm²)	362.5PSI (25kgf/cm²)	420.6PSI (30kgf/cm²)	493.1PSI (35kgf/cm²)	Shaft input (kW) 145.0PSI (10kgf/cm²)	290.0PSI (20kgf/cm²)	362.5PSI (25kgf/cm²)	420.6PSI (30kgf/cm²)	493.1PSI (35kgf/cm²)
1500 50Hz	CX32	- 10	3.4	2.6	2.3	2.1	1.5	0.4	0.6	0.8	0.9	1.0
		- 12.5	4.2	3.6	3.1	2.9	2.3	0.5	0.8	1.0	1.1	1.3
		- 16	5.2	4.4	4.2	3.9	3.6	0.6	1.0	1.2	1.4	1.6
	CX42	- 20	7.1	6.0	5.5	5.0	4.4	0.7	1.3	1.5	1.8	2.0
		- 25	8.9	7.9	7.3	6.8	6.3	0.9	1.6	1.9	2.2	2.5
		- 31.5	11.6	10.3	9.7	9.2	8.4	1.2	2.0	2.4	2.8	3.2
1800 60Hz	CX32	- 10	4.2	3.4	3.1	2.9	2.6	0.5	0.8	0.9	1.1	1.2
		- 12.5	5.2	4.4	4.2	3.9	3.6	0.6	1.0	1.2	1.4	1.6
		- 16	6.6	5.8	5.5	5.2	5.0	0.7	1.2	1.4	1.7	1.9
	CX42	- 20	8.7	7.9	7.3	6.8	6.3	0.9	1.6	1.9	2.2	2.5
		- 25	10.8	10.0	9.5	8.9	8.4	1.1	1.9	2.3	2.7	3.1
		- 31.5	14.2	13.2	12.4	11.8	11.3	1.5	2.5	2.9	3.4	3.9

The table shows the performance of the pumps, provided that water-soluble cutting fluid is applied.
Contact your Sumitomo representative for the performance of the pumps with water-insoluble cutting fluid applied.

Performance Table





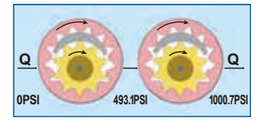
Each pump model is shown with the prefix CX omitted in the charts.

Standard Combinations of Pumps and Motors

Model No.	Discharge flow rate (usGPM) 50Hz	60Hz	Motor (kW) 1.5	2.2	4.0	5.5	7.5	11	15
CX32-※	1.5～3.4	2.6～4.7	○	○					
CX42-※	4.4～8.4	6.3～11.3		○	○	○			

1) ○: Each circle indicates a direct-coupled combination.

7M series (70kgf/cm²)



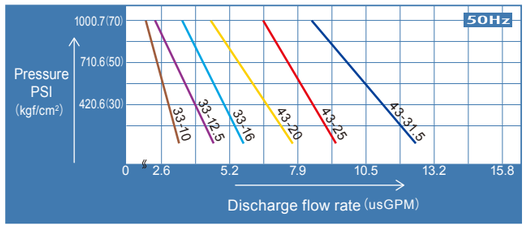
The 7M Series ensures a low-noise environment and space saving for systems operating at 725.1 to 1000.7 PSI（50 to 70 kgf/cm²）.

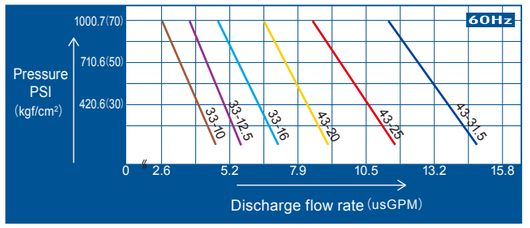
Performance Table

Rotation speed (min⁻¹)	Model No.		Discharge flow rate (usGPM) 290.0PSI (20kgf/cm²)	420.6PSI (30kgf/cm²)	565.6PSI (40kgf/cm²)	710.6PSI (50kgf/cm²)	855.7PSI (60kgf/cm²)	1000.7PSI (70kgf/cm²)	Shaft input (kW) 290.0PSI (20kgf/cm²)	420.6PSI (30kgf/cm²)	565.6PSI (40kgf/cm²)	710.6PSI (50kgf/cm²)	855.7PSI (60kgf/cm²)	1000.7PSI (70kgf/cm²)
1500 50Hz	CX33	- 10	3.4	2.9	2.6	2.3	2.1	1.5	0.8	1.0	1.3	1.6	1.8	2.1
		- 12.5	4.2	3.9	3.6	3.4	2.9	2.6	1.0	1.3	1.6	2.0	2.3	2.6
		- 16	5.2	5.0	4.4	4.2	3.9	3.6	1.2	1.6	2.0	2.4	2.8	3.2
	CX43	- 20	7.1	6.6	6.0	5.5	5.0	4.4	1.6	2.1	2.6	3.1	3.6	4.2
		- 25	8.9	8.4	7.9	7.3	6.8	6.6	1.9	2.6	3.2	3.9	4.5	5.1
		- 31.5	11.6	11.0	10.3	9.7	9.2	8.4	2.5	3.3	4.1	4.9	5.8	6.6
1800 60Hz	CX33	- 10	4.2	3.9	3.4	3.1	2.9	2.6	1.0	1.3	1.6	1.9	2.2	2.5
		- 12.5	5.2	5.0	4.7	4.4	3.9	3.6	1.2	1.6	2.0	2.4	2.8	3.2
		- 16	6.6	6.3	5.8	5.5	5.2	5.0	1.5	2.0	2.5	3.0	3.5	3.9
	CX43	- 20	8.7	8.1	7.6	7.3	6.8	6.6	2.0	2.6	3.2	3.9	4.5	5.1
		- 25	10.8	10.5	10.0	9.5	8.9	8.4	2.4	3.2	4.0	4.8	5.5	6.3
		- 31.5	14.2	13.7	13.2	12.4	11.8	11.3	3.1	4.1	5.1	6.1	7.1	8.1

The table shows the performance of the pumps, provided that water-soluble cutting fluid is applied.
Contact your Sumitomo representative for the performance of the pumps with water-insoluble cutting fluid applied.

Performance Table





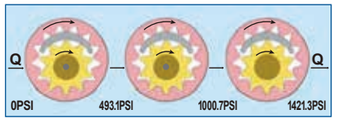
Each pump model is shown with the prefix CX omitted in the charts.

Standard Combinations of Pumps and Motors

Model No.	Discharge flow rate (usGPM) 50Hz	60Hz	Motor (kW) 1.5	2.2	4.0	5.5	7.5	11	15	18.5	22	30
CX33-※	1.5～3.4	2.6～4.7	○	○	○	○						
CX43-※	4.4～8.4	6.3～11.3			○	○	○					

1) ○: Each circle indicates a direct-coupled combination.

10M series (100kgf/cm²)



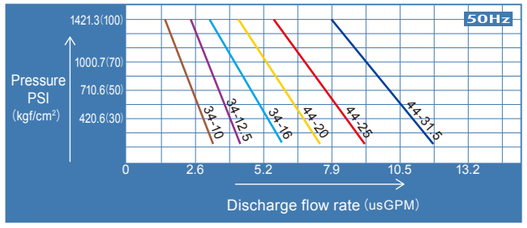
The 10M Series ensures a lower noise environment for systems operating at 1421.3 PSI (100kgf/cm²).

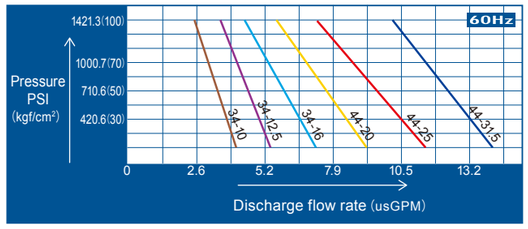
Performance Table

Rotation speed (min⁻¹)	Model No.		Discharge flow rate (usGPM) 420.6PSI (30kgf/cm²)	710.6PSI (50kgf/cm²)	1000.7PSI (70kgf/cm²)	1131.2PSI (80kgf/cm²)	1276.3PSI (90kgf/cm²)	1421.3PSI (100kgf/cm²)	Shaft input (kW) 420.6PSI (30kgf/cm²)	710.6PSI (50kgf/cm²)	1000.7PSI (70kgf/cm²)	1131.2PSI (80kgf/cm²)	1276.3PSI (90kgf/cm²)	1421.3PSI (100kgf/cm²)
1500 50Hz	CX34	- 10	3.1	2.6	2.3	2.1	1.8	1.5	1.2	1.7	2.2	2.5	2.7	3.0
		- 12.5	4.2	3.6	3.1	2.9	2.6	2.3	1.5	2.1	2.8	3.1	3.5	3.8
		- 16	5.2	4.4	3.9	3.6	3.4	3.1	1.8	2.6	3.4	3.9	4.3	4.7
	CX44	- 20	6.8	6.0	5.2	5.0	4.4	4.2	2.4	3.4	4.5	5.0	5.5	5.9
		- 25	8.7	7.6	6.8	6.6	6.0	5.8	2.9	4.2	5.5	6.2	6.8	7.4
		- 31.5	11.0	10.3	9.2	8.7	8.4	7.9	3.8	5.4	7.1	7.9	8.7	9.5
1800 60Hz	CX34	- 10	3.9	3.4	3.1	2.9	2.6	2.3	1.5	2.1	2.7	3.1	3.4	3.7
		- 12.5	5.2	4.7	4.2	3.9	3.6	3.4	1.9	2.8	3.5	3.9	4.3	4.6
		- 16	6.6	5.8	5.2	5.0	4.7	4.4	2.3	3.3	4.3	4.7	5.2	5.7
	CX44	- 20	8.4	7.6	6.8	6.6	6.3	5.8	3.0	4.3	5.5	6.2	6.7	7.4
		- 25	10.5	9.7	8.9	8.4	7.9	7.3	3.7	5.3	6.8	7.6	8.4	9.1
		- 31.5	13.7	12.6	11.8	11.3	10.8	10.3	4.8	6.8	8.8	9.7	10.7	11.7

The table shows the performance of the pumps, provided that water-soluble cutting fluid is applied.
Contact your Sumitomo representative for the performance of the pumps with water-insoluble cutting fluid applied.

Performance Table





Each pump model is shown with the prefix CX omitted in the charts.

Standard Combinations of Pumps and Motors

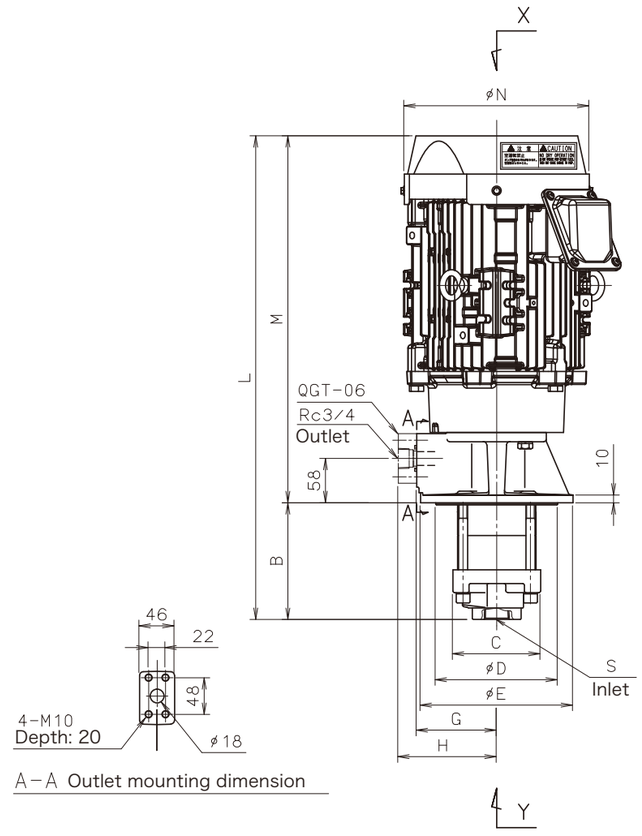
Model No.	Discharge flow rate (usGPM) 50Hz	60Hz	Motor (kW) 4.0	5.5	7.5	11	15	18.5	22	30	37
CX34-※	1.5~3.1	2.3~4.4	○	○	○						
CX44-※	4.2~7.9	5.8~10.3		○	○						

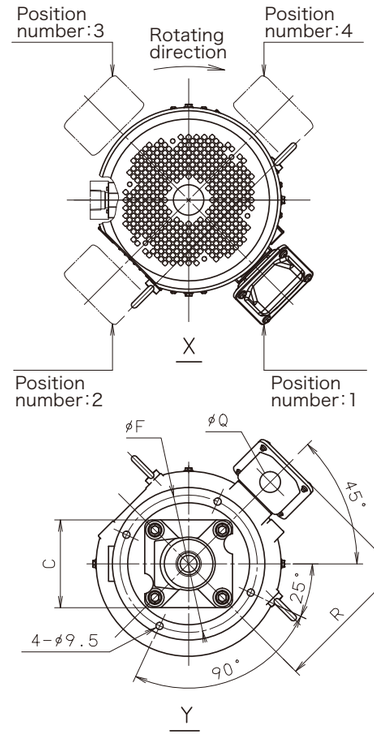
1) ○: Each circle indicates a direct-coupled combination.

Dimensions

Contact your Sumitomo representative for high-efficiency motors for overseas use.

Direct connection type





Model No.		B	C	D	E	F	G	H	L	M	N	Q	R	S	Mass (kg)
CX32-※-	1.5	108	115	160	200	180	105	129	502	394	202	27	168	Rc1	39
	2.2								540	432					47
CX42-※-	2.2	141	139	190	230	210	120	144	573	432	202	27	168	Rc1-1/4	55
	4.0								622	481	243		187		65
CX33-※-	1.5	153	115	160	200	180	105	129	547	394	202	27	168	Rc1	43
	2.2								585	432					51
	4.0								634	481	243		187		61
	5.5								656	503	285	35	261		82
CX43-※-	4.0	197	139	190	230	210	120	144	678	481	243	27	187	Rc1-1/4	70
	5.5								700	503	285	35	261		91
	7.5								738	541					103
CX34-※-	4.0	198	115	160	200	180	105	129	679	481	243	27	187	Rc1	64
	5.5								701	503	285	35	261		85
	7.5								739	541					104
CX44-※-	5.5	253	139	190	230	210	120	144	756	503	285	35	261	Rc1-1/4	97
	7.5								794	541					109

CQTM

SUMITOMO HIGH PRESSURE
COOLANT PUMP
Low-noise, Energy-saving, High-pressure Coolant Pumps

■CQTM

The structure of the CQTM Series is based on that of the QT Series, the excellently low pulsation and low noise performance of which won high reputation over the years.
The CQTM Series offers a wide pressure range and flow rate variations, thus making it possible for customers to select pumps matching their needs. The CQTM Series provides a lineup of coolant pumps with high energy-saving performance.

〈Features〉

①Supporting a wide pressure range and low to high flow rate variations.
・Supporting a pressure range covering 290.0, 507.6, 1015.2, and 1450.3 PSI.

②Maintenance-free, high durability
・No internal parts come into contact together. Therefore, the parts rarely wear if certain conditions of use are satisfied.

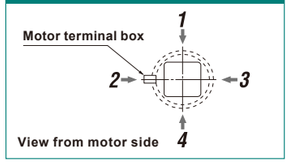
③Space-saving designing
・CQTM pumps can be installed horizontally or vertically to designed coolant systems, thus making it possible to save space.

④Energy saving
・Energy-saving inverter control is also possible.

Pump Model Legend

CQTM51-100F+5.5-1-T-S※※※※-※

- **Basic model**
- **Pump size** (Number range) 3 to 6
- **Highest pressure indication**
  - 4：10M Series　3：7M Series
  - 2：3.5M Series　1：2M Series
- **Discharge flow rate indication** — Discharge flow rate (usGPM) with no load at 1000 min^{-1}
- **Relative positions of pump inlet and outlet**
  - F：The inlet and outlet opposite each other in direction (standard).
  - Blank：The inlet and outlet are the same in direction.
- **Motor capacity** (1.5 ～ 37kW)
- **How to connect pump and motor**
  - -：Direct connection
  - +：Bell flange connection
- **Special item number**
- **Motor standard**
- **Installation direction of pump motor**
  - T：Vertical (standard)　Blank：Horizontal
- **Relative positions of motor terminal box and pump outlet**

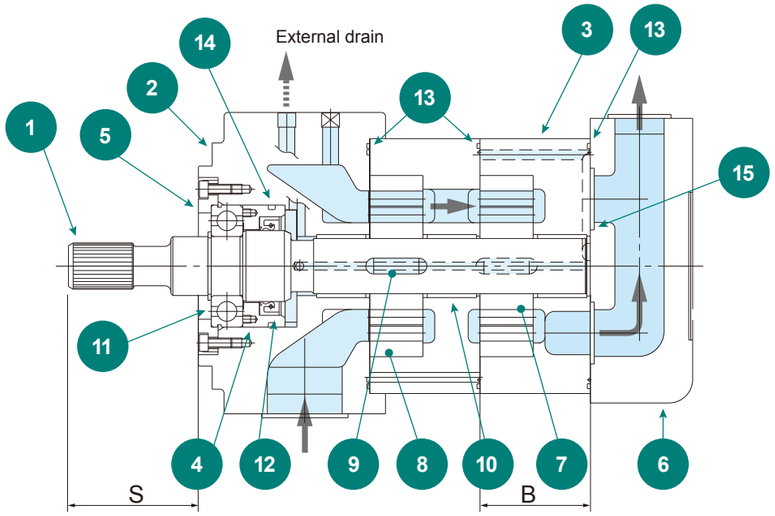


List of Pumps

Discharge flow rate (usGPM) 50Hz	Discharge flow rate (usGPM) 60Hz	2M series 300PSI(20kgf/cm²)	3.5M series 500PSI(35kgf/cm²)	7M series 1000PSI(70kgf/cm²)	10M series 1500PSI(100kgf/cm²)	Remarks
1.5	2.6		CQTM32-10	CQTM33-10	CQTM34-10	Used for both water-soluble and water-insoluble liquids
2.6	3.6		-12.5	-12.5	-12.5	
3.4	4.7		-16	-16	-16	
4.4	6.6		CQTM42-20	CQTM43-20	CQTM44-20	
6.6	8.4		-25	-25	-25	
8.4	11.3		-31.5	-31.5	-31.5	
10.0	12.9		CQTM52-40	CQTM53-40	CQTM54-40	
14.0	17.9		-50	-50	-50	
18.7	23.5		-63	-63	-63	
22.1	28.2	CQTM51-80	CQTM62-80	CQTM63-80	CQTM64-80	
29.5	37.2	-100	-100	-100	-100	
38.0	47.5	-125	-125	-125	-125	
50.9	62.0	CQTM61-160				
65.5	—	-200				

* The discharge flow rate of each pump is an approximate value with water-soluble cutting fluid pumped at the maximum pressure of the pump. For details, see the Performance Table.

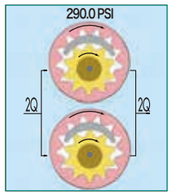
Structure



The figure and list of parts are for the **7M Series**. The **3.5M Series** is not provided with block B of the 7M Series.
The shaft part as shown in block S is of spline construction. The bell flange, however, is coupled with a key.

Sign	Quantity	Parts name
1	1	Shaft
2	1	Front cover
3	1	Gear housing
4	1	Seal housing
5	1	Bearing retainer
6	1	End cover
7	2	Pinion gear
8	2	Ring Gear
9	2	Key
10	3	Bearing
11	1	Ball bearing
12	1	Shaft seal
13	3	O-ring
14	1	O-ring
15	2	O-ring

2M series (20kgf/cm²)



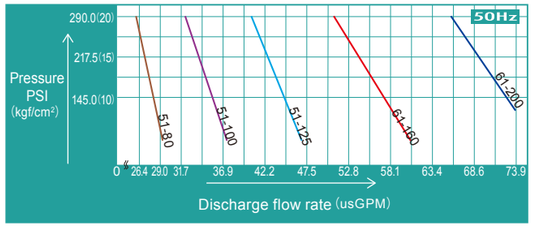
**Each ultra-short pump of the 2M Series ensures less energy loss with stable pressure when used for systems operating at 217.5 to 290.0 PSI (15 to 20 kgf/cm2).
Furthermore, it ensures good self-priming.**

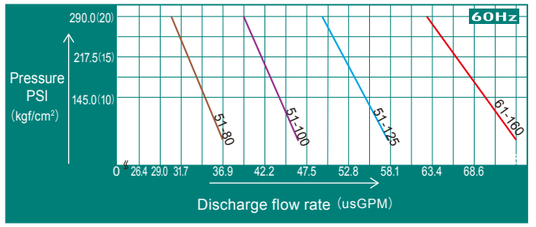
Performance Table

Rotation speed (min⁻¹)	Model No.		Discharge flow rate (usGPM) 72.5PSI (5kgf/cm²)	145.0PSI (10kgf/cm²)	188.5PSI (13kgf/cm²)	217.5PSI (15kgf/cm²)	261.0PSI (18kgf/cm²)	290.0PSI (20kgf/cm²)	Shaft input (kW) 72.5PSI (5kgf/cm²)	145.0PSI (10kgf/cm²)	188.5PSI (13kgf/cm²)	217.5PSI (15kgf/cm²)	261.0PSI (18kgf/cm²)	290.0PSI (20kgf/cm²)
1500 50Hz	CQT51	- 80	30.1	28.2	27.2	26.6	25.6	24.8	1.9	2.9	3.5	3.9	4.5	4.9
		-100	38.0	36.1	35.1	34.3	33.0	32.2	2.3	3.6	4.4	4.9	5.7	6.2
		-125	47.0	44.6	43.5	42.7	41.4	40.6	2.9	4.4	5.4	6.0	6.9	7.6
	CQT61	-160	60.2	57.3	55.4	54.4	52.3	50.9	3.7	5.7	6.9	7.7	8.9	9.7
		-200	76.3	72.6	69.7	68.9	66.8	65.5	4.6	7.1	8.6	9.6	11.1	12.1
1800 60Hz	CQT51	- 80	36.1	34.3	33.2	32.4	31.3	30.3	2.4	3.6	4.4	4.9	5.6	6.1
		-100	45.9	43.8	42.5	41.4	40.1	39.3	3.0	4.5	5.5	6.1	7.0	7.6
		-125	56.7	54.4	53.0	52.0	50.7	49.6	3.7	5.6	6.7	7.5	8.6	9.4
	CQT61	-160	72.6	69.2	67.1	65.7	63.6	62.3	4.7	7.1	8.6	9.5	10.9	11.9

The table shows the performance of the pumps, provided that water-soluble cutting fluid is applied.
Contact your Sumitomo representative for the performance of the pumps with water-insoluble cutting fluid applied.

Performance Table





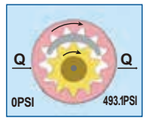
Each pump model is shown with the prefix CX omitted in the charts.

Standard Combinations of Pumps and Motors

Model No.	Discharge flow rate (usGPM) 50Hz	60Hz	Motor (kW) 5.5	7.5	11	15
CQTM51-※	24.8~40.6	30.3~49.6	■	■		
CQTM61-※	50.9~65.5	62.3	☆	☆	☆	■

1) ■: Each black square indicates a bell flange type combination of models.
2) ☆: Each star indicates a combination of models as well, but the product dimensions are omitted in this catalog. Contact your Sumitomo representative for the dimensions whenever required.

3.5M series (35kgf/cm²)



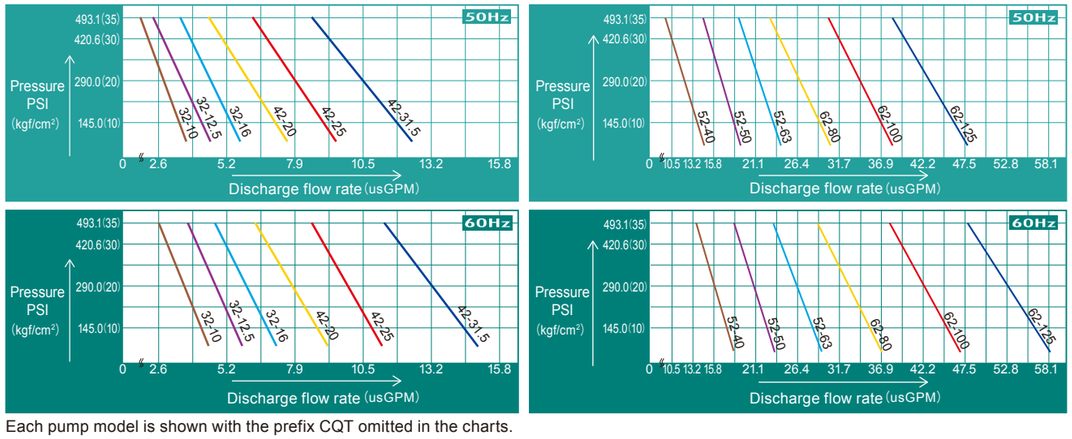
The 3.5M Series makes it possible to select economical pumps for systems operating at 435.1PSI (30 kgf/cm²).

Performance Table

Rotation speed (min⁻¹)	Model No.		Discharge flow rate (usGPM) 145.0PSI (10kgf/cm²)	290.0PSI (20kgf/cm²)	362.5PSI (25kgf/cm²)	420.6PSI (30kgf/cm²)	493.1PSI (35kgf/cm²)	Shaft input (kW) 145.0PSI (10kgf/cm²)	290.0PSI (20kgf/cm²)	362.5PSI (25kgf/cm²)	420.6PSI (30kgf/cm²)	493.1PSI (35kgf/cm²)
1500 50Hz	CQT32	- 10	3.4	2.6	2.3	2.1	1.5	0.4	0.6	0.8	0.9	1.0
		- 12.5	4.2	3.6	3.1	2.9	2.3	0.5	0.8	1.0	1.1	1.3
		- 16	5.2	4.4	4.2	3.9	3.6	0.6	1.0	1.2	1.4	1.6
	CQT42	- 20	7.1	6.0	5.5	5.0	4.4	0.7	1.3	1.5	1.8	2.0
		- 25	8.9	7.9	7.3	6.8	6.3	0.9	1.6	1.9	2.2	2.5
		- 31.5	11.6	10.3	9.7	9.2	8.4	1.2	2.0	2.4	2.8	3.2
	CQT52	- 40	14.0	12.6	11.8	11.0	10.3	1.4	2.4	2.9	3.4	3.9
		- 50	18.4	16.9	16.1	15.3	14.5	1.8	3.1	3.7	4.4	5.0
		- 63	23.5	21.6	20.8	20.0	19.0	2.3	3.9	4.7	5.5	6.3
	CQT62	- 80	29.0	26.6	25.3	24.0	22.7	2.8	4.9	5.9	6.9	7.9
		-100	37.2	34.3	33.0	31.4	30.1	3.6	6.1	7.4	8.6	9.9
		-125	46.2	43.3	41.7	40.1	38.5	4.4	7.5	9.1	10.6	12.1
1800 60Hz	CQT32	- 10	4.2	3.4	3.1	2.9	2.6	0.5	0.8	0.9	1.1	1.2
		- 12.5	5.2	4.4	4.2	3.9	3.6	0.6	1.0	1.2	1.4	1.6
		- 16	6.6	5.8	5.5	5.2	5.0	0.7	1.2	1.4	1.7	1.9
	CQT42	- 20	8.7	7.9	7.3	6.8	6.3	0.9	1.6	1.9	2.2	2.5
		- 25	10.8	10.0	9.5	8.9	8.4	1.1	1.9	2.3	2.7	3.1
		- 31.5	14.2	13.2	12.4	11.8	11.3	1.5	2.5	2.9	3.4	3.9
	CQT52	- 40	17.1	15.5	15.0	14.2	13.4	1.8	3.0	3.6	4.2	4.8
		- 50	22.4	20.8	19.8	19.0	18.2	2.3	3.8	4.6	5.3	6.1
		- 63	28.2	26.6	25.6	24.8	23.7	2.8	4.8	5.7	6.7	7.7
	CQT62	- 80	35.3	32.7	31.4	30.1	28.7	3.6	6.0	7.2	8.4	9.6
		-100	45.1	42.2	40.6	39.3	37.7	4.5	7.5	9.0	10.5	12.1
		-125	56.0	52.8	50.9	49.4	47.8	5.5	9.3	11.1	13.0	14.8

The table shows the performance of the pumps, provided that water-soluble cutting fluid is applied.
Contact your Sumitomo representative for the performance of the pumps with water-insoluble cutting fluid applied.

Performance Table



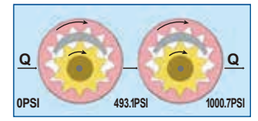
Each pump model is shown with the prefix CQT omitted in the charts.

Standard Combinations of Pumps and Motors

Model No.	Discharge flow rate (usGPM) 50Hz	60Hz	Motor (kW) 1.5	2.2	3.7	4.0	5.5	7.5	11	15
CQTM32-※	1.5～3.4	2.6～4.7	○	○						
CQTM42-※	4.4～8.4	6.3～11.3		○		○	○			
CQTM52-※	10.3～19.0	13.4～23.7			■		■	■	■	
CQTM62-※	22.7～38.5	28.7～47.8					■	■	■	■

1) ○: Each circle indicates a direct-coupled combination of models.
2) ■: Each black square indicates a bell flange type combination of models.

7M series (70kgf/cm²)



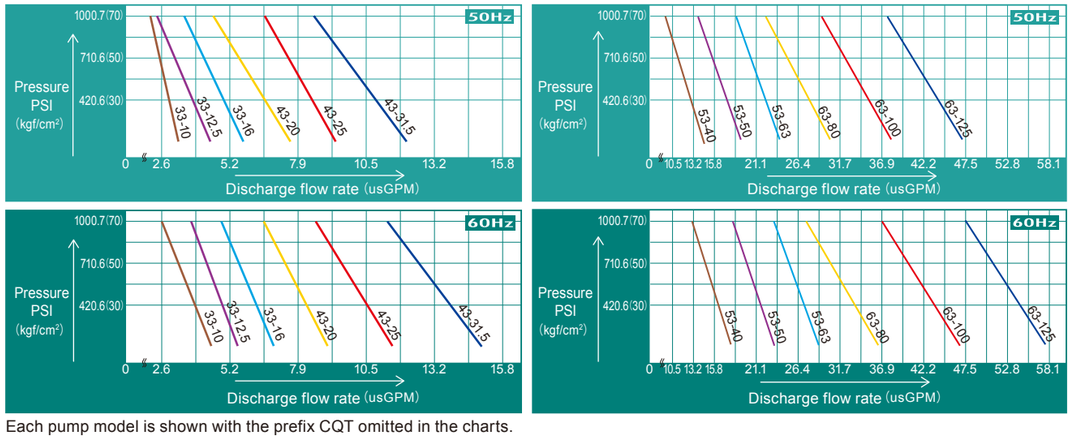
The 7M Series ensures a low-noise environment and space saving for systems operating at 725.1 to 1000.7 PSI (50 to 70 kgf/cm²).

Performance Table

Rotation speed (min⁻¹)	Model No.		Discharge flow rate (usGPM) 290.0PSI (20kgf/cm²)	420.6PSI (30kgf/cm²)	565.6PSI (40kgf/cm²)	710.6PSI (50kgf/cm²)	855.7PSI (60kgf/cm²)	1000.7PSI (70kgf/cm²)	Shaft input (kW) 290.0PSI (20kgf/cm²)	420.6PSI (30kgf/cm²)	565.6PSI (40kgf/cm²)	710.6PSI (50kgf/cm²)	855.7PSI (60kgf/cm²)	1000.7PSI (70kgf/cm²)
1500 50Hz	CQT33	- 10	3.4	2.9	2.6	2.3	2.1	1.5	0.8	1.0	1.3	1.6	1.8	2.1
		- 12.5	4.2	3.9	3.6	3.4	2.9	2.6	1.0	1.3	1.6	2.0	2.3	2.6
		- 16	5.2	5.0	4.4	4.2	3.9	3.6	1.2	1.6	2.0	2.4	2.8	3.2
	CQT43	- 20	7.1	6.6	6.0	5.5	5.0	4.4	1.6	2.1	2.6	3.1	3.6	4.2
		- 25	8.9	8.4	7.9	7.3	6.8	6.6	1.9	2.6	3.2	3.9	4.5	5.1
		- 31.5	11.6	11.0	10.3	9.7	9.2	8.4	2.5	3.3	4.1	4.9	5.8	6.6
	CQT53	- 40	14.0	13.2	12.4	11.6	10.8	10.0	3.0	4.0	5.0	6.0	7.0	8.0
		- 50	18.2	17.4	16.6	15.5	14.7	14.0	3.8	5.1	6.4	7.7	8.9	10.2
		- 63	23.2	22.4	21.3	20.6	19.5	18.7	4.8	6.4	8.0	9.6	11.2	12.8
	CQT63	- 80	29.0	27.7	26.1	24.8	23.5	22.1	6.0	8.0	10.0	12.0	14.0	16.0
		-100	36.7	35.3	33.8	32.4	30.9	29.5	7.6	10.1	12.6	15.1	17.6	20.2
		-125	46.2	44.6	42.7	41.2	39.6	38.0	9.3	12.4	15.5	18.6	21.7	24.8
1800 60Hz	CQT33	- 10	4.2	3.9	3.4	3.1	2.9	2.6	1.0	1.3	1.6	1.9	2.2	2.5
		- 12.5	5.2	5.0	4.7	4.4	3.9	3.6	1.2	1.6	2.0	2.4	2.8	3.2
		- 16	6.6	6.3	5.8	5.5	5.2	5.0	1.5	2.0	2.5	3.0	3.5	3.9
	CQT43	- 20	8.7	8.1	7.6	7.3	6.8	6.6	2.0	2.6	3.2	3.9	4.5	5.1
		- 25	10.8	10.5	10.0	9.5	8.9	8.4	2.4	3.2	4.0	4.8	5.5	6.3
		- 31.5	14.2	13.7	13.2	12.4	11.8	11.3	3.1	4.1	5.1	6.1	7.1	8.1
	CQT53	- 40	16.9	16.1	15.3	14.5	13.7	12.9	3.8	5.0	6.2	7.4	8.6	9.8
		- 50	22.1	21.3	20.6	19.5	18.7	17.9	4.9	6.4	7.9	9.5	11.0	12.5
		- 63	28.2	27.2	26.4	25.3	24.3	23.5	6.1	8.0	9.9	11.8	13.8	15.7
	CQT63	- 80	35.1	33.8	32.4	30.9	29.5	28.2	7.7	10.1	12.5	14.9	17.3	19.7
		-100	44.9	43.3	42.0	40.4	38.8	37.2	9.6	12.6	15.7	18.7	21.7	24.7
		-125	55.7	54.1	52.5	50.7	49.1	47.5	11.8	15.6	19.3	23.0	26.7	30.4

The table shows the performance of the pumps, provided that water-soluble cutting fluid is applied.
Contact your Sumitomo representative for the performance of the pumps with water-insoluble cutting fluid applied.

Performance Table



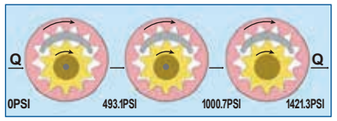
Each pump model is shown with the prefix CQT omitted in the charts.

Standard Combinations of Pumps and Motors

Model No.	Discharge flow rate (usGPM) 50Hz	60Hz	Motor (kW) 1.5	2.2	4.0	5.5	7.5	11	15	18.5	22	30	37
CQTM33-※	1.5～3.4	2.6～4.7	○	○	○	○							
CQTM43-※	4.4～8.4	6.3～11.3			○	○	○	■					
CQTM53-※	10.0～18.7	12.9～23.5				■	■	■	■	■			
CQTM63-※	22.1～38.0	28.2～47.5						■	■	■	■	■	■

1) ○: Each circle indicates a direct-coupled combination of models.
2) ■: Each black square indicates a bell flange type combination of models.

10M series (100kgf/cm²)



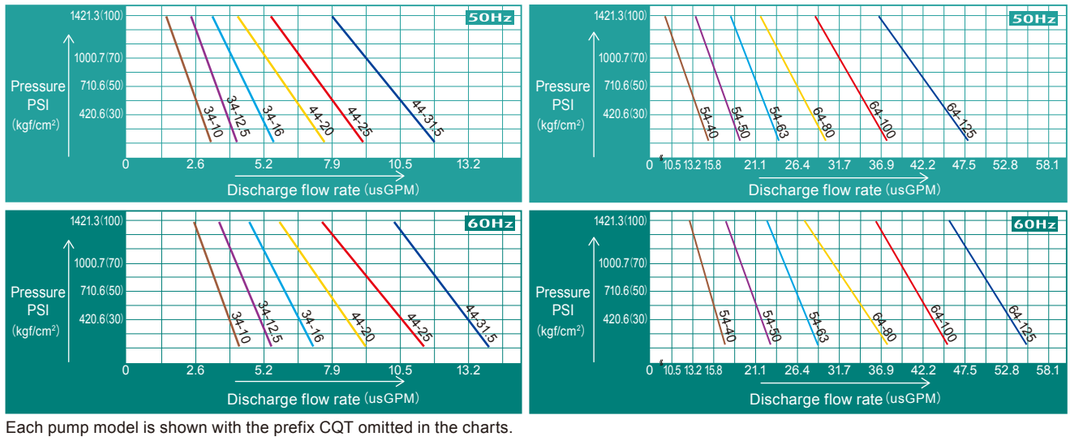
The 10M Series ensures a lower noise environment for systems operating at 1421.3 PSI (100kgf/cm²).

Performance Table

Rotation speed (min⁻¹)	Model No.		Discharge flow rate (usGPM) 420.6PSI (30kgf/cm²)	710.6PSI (50kgf/cm²)	1000.7PSI (70kgf/cm²)	1131.2PSI (80kgf/cm²)	1276.3PSI (90kgf/cm²)	1421.3PSI (100kgf/cm²)	Shaft input (kW) 420.6PSI (30kgf/cm²)	710.6PSI (50kgf/cm²)	1000.7PSI (70kgf/cm²)	1131.2PSI (80kgf/cm²)	1276.3PSI (90kgf/cm²)	1421.3PSI (100kgf/cm²)
1500 50Hz	CQT34	- 10	3.1	2.6	2.3	2.1	1.8	1.5	1.2	1.7	2.2	2.5	2.7	3.0
		- 12.5	4.2	3.6	3.1	2.9	2.6	2.3	1.5	2.1	2.8	3.1	3.5	3.8
		- 16	5.2	4.4	3.9	3.6	3.4	3.1	1.8	2.6	3.4	3.9	4.3	4.7
	CQT44	- 20	6.8	6.0	5.2	5.0	4.4	4.2	2.4	3.4	4.5	5.0	5.5	5.9
		- 25	8.7	7.6	6.8	6.6	6.0	5.8	2.9	4.2	5.5	6.2	6.8	7.4
		- 31.5	11.0	10.3	9.2	8.7	8.4	7.9	3.8	5.4	7.1	7.9	8.7	9.5
	CQT54	- 40	14.0	12.6	11.6	11.0	10.5	10.0	4.5	6.5	8.5	9.5	10.5	11.5
		- 50	17.9	16.6	15.5	14.7	14.2	13.7	5.9	8.4	10.9	12.2	13.5	14.8
		- 63	22.9	21.6	20.3	19.5	18.7	17.9	7.4	10.5	13.7	15.4	17.0	18.6
	CQT64	- 80	28.2	26.4	24.5	23.5	22.4	21.6	9.2	13.2	17.3	19.3	21.3	23.3
		-100	35.9	33.8	31.7	30.6	29.5	28.5	11.6	16.6	21.7	24.2	26.7	29.2
		-125	45.9	42.7	39.6	38.8	37.7	36.7	14.3	20.5	26.7	29.7	32.8	36.0
1800 60Hz	CQT34	- 10	3.9	3.4	3.1	2.9	2.6	2.3	1.5	2.1	2.7	3.1	3.4	3.7
		- 12.5	5.2	4.7	4.2	3.9	3.6	3.4	1.9	2.8	3.5	3.9	4.3	4.6
		- 16	6.6	5.8	5.2	5.0	4.7	4.4	2.3	3.3	4.3	4.7	5.2	5.7
	CQT44	- 20	8.4	7.6	6.8	6.6	6.3	5.8	3.0	4.3	5.5	6.2	6.7	7.4
		- 25	10.5	9.7	8.9	8.4	7.9	7.3	3.7	5.3	6.8	7.6	8.4	9.1
		- 31.5	13.7	12.6	11.8	11.3	10.8	10.3	4.8	6.8	8.8	9.7	10.7	11.7
	CQT54	- 40	16.3	15.3	14.2	13.7	13.2	12.6	5.8	8.2	10.6	11.7	12.9	14.1
		- 50	21.9	20.6	19.2	18.7	17.9	17.4	7.5	10.5	13.6	15.1	16.6	18.2
		- 63	27.7	26.4	24.8	24.0	23.5	22.7	9.3	13.2	17.0	18.9	20.8	22.7
	CQT64	- 80	34.6	32.4	30.3	29.5	28.2	27.2	11.7	16.7	21.4	23.8	26.2	28.6
		-100	44.1	41.7	39.3	38.3	36.9	35.9	14.8	20.8	26.9	29.8	32.9	35.9
		-125	53.6	52.3	49.6	48.3	47.0	45.7	18.2	25.7	33.1	36.8	40.5	44.2

The table shows the performance of the pumps, provided that water-soluble cutting fluid is applied.
Contact your Sumitomo representative for the performance of the pumps with water-insoluble cutting fluid applied.

Performance Table



Each pump model is shown with the prefix CQT omitted in the charts.

Standard Combinations of Pumps and Motors

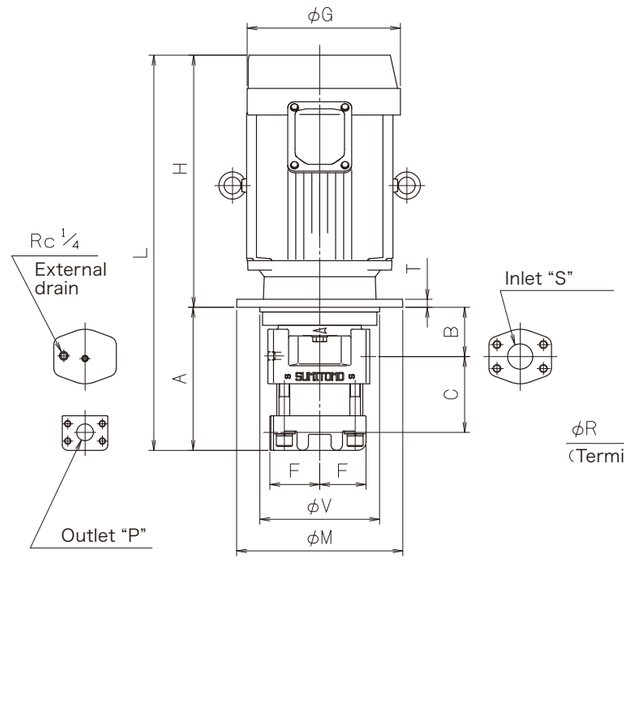
Model No.	Discharge flow rate (usGPM) 50Hz	60Hz	Motor (kW) 4.0	5.5	7.5	11	15	18.5	22	30	37
CQTM34-※	1.5～3.1	2.3～4.4	○	○	○						
CQTM44-※	4.2～7.9	5.8～10.3		○	○	■	■				
CQTM54-※	10.0～17.9	12.6～22.7				■	■	■	■		
CQTM64-※	21.6～36.7	27.2～45.7					☆	☆	☆	■	■

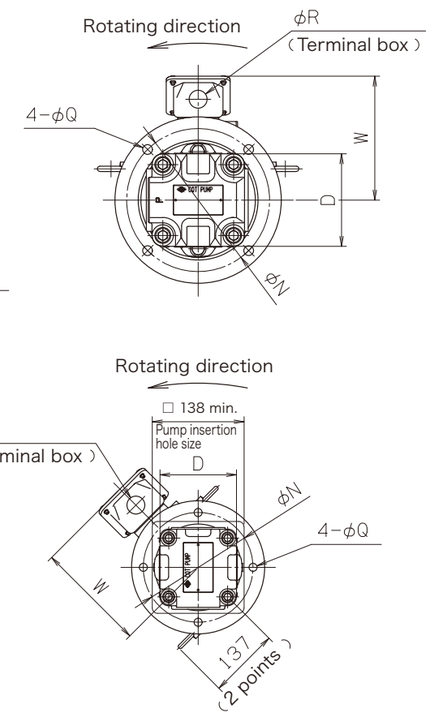
1) ○: Each circle indicates a direct-coupled combination of models.
2) ■: Each black square indicates a bell flange type combination of models.
3) ☆: Each star indicates a combination of models as well,
but the product dimensions are omitted in this catalog.
Contact your Sumitomo representative for the dimensions whenever required.

Dimensions

Contact your Sumitomo representative for high-efficiency motors for overseas use.

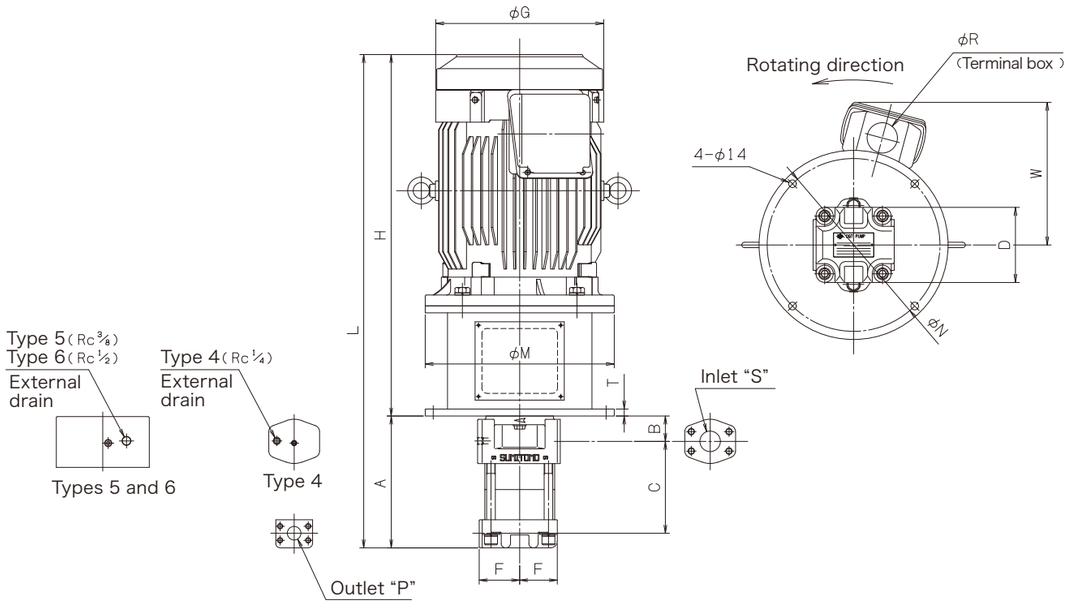
Direct connection type





Model No.		A	B	C	D	F	G	H	L	M	N	Q	R	T	V	W	Mass (kg)	Inlet (S)	Outlet (P)
CQTM32-※-	1.5T	178	63	94	115	60	202	306.5	484.5	200	165	12	27	12	130	168	38	QG※-10	QG※-06
	2.2T	165	50					359.5	524.5	250	215	14.5			180	167.5	47		
CQTM42-※-	2.2T	217	76	114	139	75	202	359.5	576.5	250	215	14.5	27	12	180	167.5	59	QG※-12	QG※-08
	4.0T	215	74				243	379	594							187	69		
	5.5T	212	71				285	407	619	300	265		35	20	230	261	95		
CQTM33-※-	1.5T	223	63	139	115	60	202	306.5	529.5	200	165	12	27	12	130	168	41	QG※-10	QG※-06
	2.2T	210	50					359.5	569.5	250	215	14.5			180	167.5	50		
	4.0T	209	49				243	379	588							187	59		
	5.5T	206	46				285	407	613	300	265		35	20	230	261	86		
CQTM43-※-	4.0T	271	74	170	139	75	243	379	650	250	215	14.5	27	12	180	187	72	QG※-12	QG※-08
	5.5T	268	71				285	407	675	300	265		35	20	230	261	99		
	7.5T							445	713								111		
CQTM34-※-	4.0T	254	49	184	115	60	243	379	633	250	215	14.5	27	12	180	187	62	QG※-10	QG※-06
	5.5T	251	46				285	407	658	300	265		35	20	230	261	89		
	7.5T							445	696								101		
CQTM44-※-	5.5T	324	71	226	139	75	285	407	731	300	265	14.5	35	20	230	261	102	QG※-12	QG※-08
	7.5T							445	769								114		

Bell Flange Connection Type



Model No.		A	B	C	D	F	G	H	L	M	N	R	T	W	Mass (kg)	Inlet (S)	Outlet (P)
CQTM51-※-	5.5T	255	53	170	170	93	266	588.5	843.5	300	320	27	13	194	125	QG※-16	QG※-10
	7.5T							626.5	881.5						135		
CQTM61-※-	15T	320	62	216.5	216	118	318	737	1057	350	370	56	16	264	250	QG※-20	QG※-12
CQTM52-※-	3.7T	221	53	136	170	93	228	523	744	250	320	27	13	177	100	QG※-16	QG※-10
	5.5T						266	588.5	809.5	300				194	120		
	7.5T							626.5	847.5						130		
	11T						318	693	914	350		56		264	175		
CQTM62-※-	5.5T	278	62	174.5	216	118	266	588.5	866.5	300	370	27	16	194	165	QG※-20	QG※-12
	7.5T							626.5	904.5						175		
	11T						318	693	971	350		56		264	215		
	15T							737	1015						235		
CQTM43-※-	11T	244	47	170	139	75	318	669	913	350	320	56	13	264	160	QG※-12	QG※-08
CQTM53-※-	5.5T	291	53	206	170	93	266	588.5	879.5	300	320	27	13	194	130	QG※-16	QG※-10
	7.5T							626.5	917.5						140		
	11T						318	693	984	350		56		264	185		
	15T							737	1028						205		
	18.5T						363	776	1067	400	370		16	285	260		
CQTM63-※-	11T	368	62	264.5	216	118	318	693	1061	350	370	56	16	264	240	QG※-20	QG※-12
	15T							737	1105						260		
	18.5T						363	776	1144	400				285	310		
	22T														315		
	30T						406	908	1276					300	405		
	37T						446	957	1325	450		90		368	460		
CQTM44-※-	11T	300	47	226	139	75	318	669	969	350	320	56	13	264	165	QG※-12	QG※-08
	15T							713	1013						185		
CQTM54-※-	11T	361	53	276	170	93	318	693	1054	350	320	56	13	264	195	QG※-16	QG※-10
	15T							737	1098						215		
	18.5T						363	776	1137	400	370		16	285	270		
	22T														275		
CQTM64-※-	30T	458	62	354.5	216	118	406	908	1366	400	370	56	16	300	430	QG※-20	QG※-12
	37T						446	957	1415	450		90		368	485		

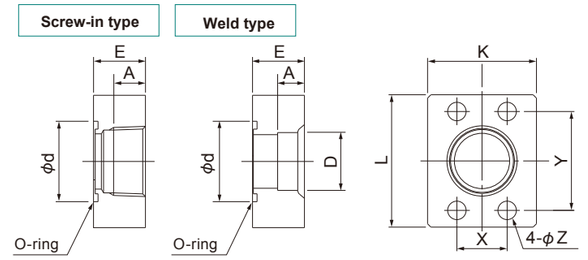
The above dimensions are for motors manufactured by Mitsubishi Electric Corporation.
Combinations with other manufacturers' motors are also possible.

Piping Flanges (Sold Separately)

Model Legend

QG T-12 ※-A

- **Basic model**: CQTM piping flange
- **Piping type**: T: Screw-in type W: Weld type
- **Option code**
- **Design code**
- **Piping size**: 04~20



Piping flange no.	Nominal dia.	A T	A W	d T	d W	D T	D W	E	K	L	X	Y	Z	O-ring JIS B2401	Mounting bolt JIS B1176
QG※-04	1/2"	17.2	11	12.5	12	RC 1/2	ϕ17.8	21	38	54	17.5	38	9	-1BP22A	M8×35
QG※-06	3/4"	19.2	12	20	16	RC 3/4	ϕ22.2	24	50	65	22	48	11	-1BP28	M10×40
QG※-08	1"	23.2	14	25	20	RC 1	ϕ27.7	31		70	26	52		-1BP34	M10×50
QG※-10	1 1/4"	25.5	16	32	25	RC 1 1/4	ϕ34.5		65	79	30	59		-1BP42	
QG※-12	1 1/2"		18	38	32	RC 1 1/2	ϕ43.2		75	94	36	70	13	-1BP50	M12×50
QG※-16	2"	29.8	20	50	40	RC 2	ϕ49.1	37	85	100	43	78		-1BP60	
QG※-20	2 1/2"	33.5	22	63	50	RC 2 1/2	ϕ61.1		100	110	51	89		-1BP70	

Handling Instructions

Thoroughly read the Instruction Manual and make sure you understand the information provided before attempting to operate the product.

● Design, installation, and piping precautions

1.Design the top plate thickness of the tank and the size of the pump insertion part of the top plate with consideration of the dimensions in Fig. A so that no parts will interfere with each other.

2.Use fittings and pipes with appropriate inner diameters for external drain piping so that the back pressure on the external drain piping will not exceed 4.3 PSI (0.3 kgf/cm2). (See dimension-a in Fig. A.) Make sure the height of the drain piping outlet is below the tank liquid level.

3.In order to improve the lubrication effect of the shaft seal, make the position of the piping partially higher than the position of the port as shown in Fig. B so that the pump will be filled with liquid.

Fig. A

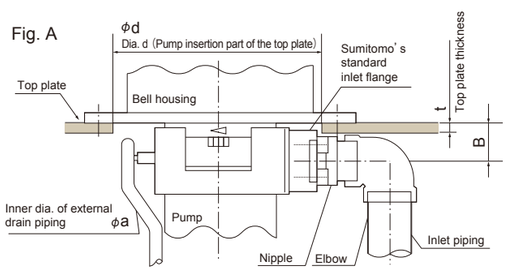
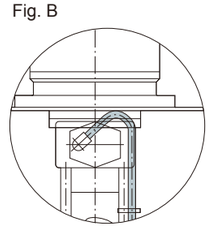


Fig. B



	d	t	B	a
Type 4	232 max.	9.5 max.	47	8 min.
Type 5	279 max.	10.5 max.	53	10 min.
Type 6	329 max.	12.0 max.	62	14 min.

E3P

SUMITOMO HIGH PRESSURE
COOLANT PUMP
Low-noise, Energy-saving, Immersion-type Coolant Pumps

■E3P

Each compact coolant pump of the E3P Series is easy to use with consideration of ease of maintenance and specialized for use at an operating pressure of 290.0 PSI.

〈Features〉

①Built-in relief valve
- Each pump incorporates a cartridge-type relieve valve, thus ensuring excellent cost performance, and eliminating the necessity for ordering a relieve valve separately.

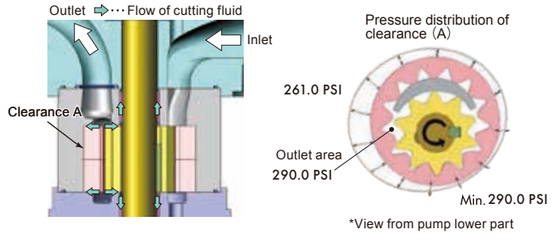
②Compact dimensions
- The under-the-tank dimension of the pump is short, which makes it possible to remove the pump with ease and allow the use of an ultra-thin tank.

③High maintainability
- Not only the pump but also the gear housing set can be replaced with quick restoration.

④Energy saving
- Energy saving is possible under inverter control.

Outstanding Durability and Maintenance-free

The E3P is of simple construction. Furthermore, the sliding surface of each part is forcibly lubricated with liquid coolant, which prevents the parts from coming in contact as much as possible and ensures a long life. Furthermore, each E3P pump incorporates a cartridge-type relieve valve, thus eliminating the necessity for installing a relieve valve separately.



*View from pump lower part

E3P

Pump Model Legend

E3P-16-1.5-S※※※※-※

- Basic model
- Nominal theoretical discharge flow rate (cc/rev)
- Motor capacity
- Special item no.
- Motor standard

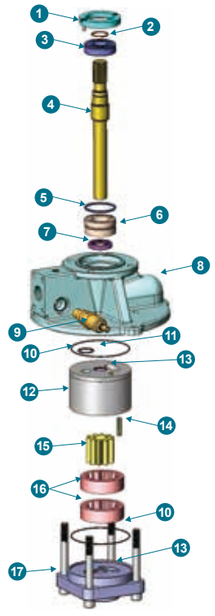
□**Use of water-insoluble (oil-based) cutting fluid**

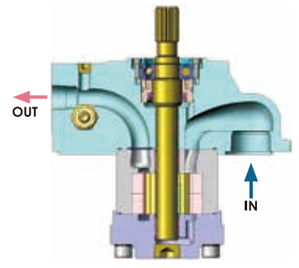
The E3P accepts water-insoluble cutting fluid with no special modifications required. For details, indicate the viscosity and brand of the cutting fluid (in mm^2/s) and contact your Sumitomo representative.

List of Pumps

Pump Model	Max. operating pressure	Discharge flow rate (usGPM)		Shaft input (kW)	
		50Hz	60Hz	50Hz	60Hz
E3P-10	290.0 PSI	2.3	3.1	0.6	0.8
E3P-12.5		3.4	4.2	0.8	1.0
E3P-16		4.2	5.5	1.0	1.2
E3P-20		5.2	6.8	1.3	1.6
E3P-25		7.1	8.9	1.6	2.0
E3P-31.5		8.9	11.6	2.0	2.5

Structure of Pump



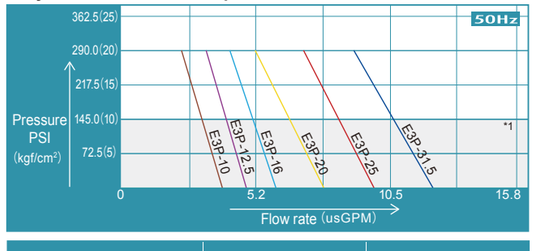


Sign	Quantity	Parts name
1	1	Bearing retainer
2	1	Snap ring
3	1	Ball bearing
4	1	Shaft
5	1	O-ring
6	1	Seal housing
7	1	Shaft seal
8	1	Front cover
9	1	Cartridge relief
10	2	O-ring
11	1	O-ring
12	1	Gear housing
13	2	Bearing
14	1	Key
15	1	Pinion gear
16	2*	Ring Gear
17	1	End cover

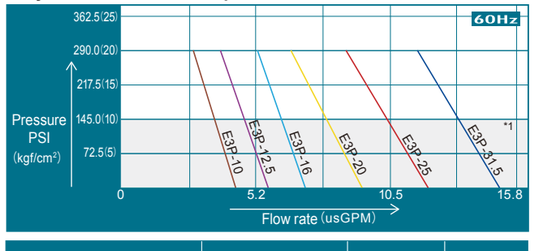
* The quantity varies with the theoretical discharge flow rate.

Performance Table

□**Synchronous rotation speed** 1500min⁻¹ E3P(50Hz)



□**Synchronous rotation speed** 1800min⁻¹ E3P(60Hz)

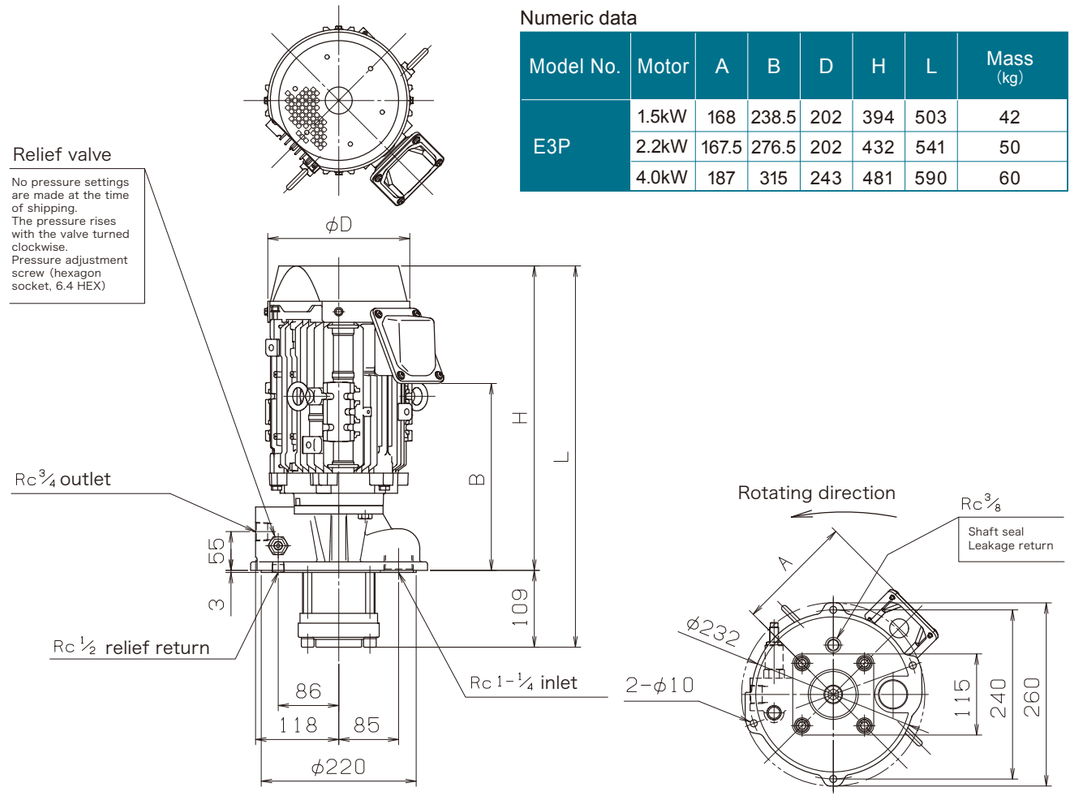


Model		E3P-※-1.5			E3P-※-2.2		
Pressure	Discharge flow rate	-10	-12.5	-16	-20	-25	-31.5
0PSI	usGPM	3.9	5.0	6.0	7.9	10.0	12.4
145.0PSI	usGPM	3.1	3.9	5.0	6.6	8.4	10.5
Shaft input value	kW	0.4	0.5	0.6	0.8	0.9	1.2
290.0PSI	usGPM	2.3	3.4	4.2	5.2	7.1	8.9
Shaft input value	kW	0.6	0.8	1.0	1.3	1.6	2.0

Model		E3P-※-1.5			E3P-※-2.2		E3P-※-4.0
Pressure	Discharge flow rate	-10	-12.5	-16	-20	-25	-31.5
0PSI	usGPM	4.7	6.0	7.3	9.5	11.8	14.7
145.0PSI	USGPM	3.9	5.0	6.3	8.1	10.3	13.2
Shaft input value	kW	0.5	0.6	0.7	0.9	1.2	1.5
290.0PSI	usGPM	3.1	4.2	5.5	6.8	8.9	11.6
Shaft input value	kW	0.8	1.0	1.2	1.6	2.0	2.5

*1. The minimum adjustment pressure of a built-in relief valve is 145.0 PSI.

Dimensions



Numeric data

Model No.	Motor	A	B	D	H	L	Mass (kg)
E3P	1.5kW	168	238.5	202	394	503	42
	2.2kW	167.5	276.5	202	432	541	50
	4.0kW	187	315	243	481	590	60

Inlet, Relief Return, and Outlet Piping Flanges (Sold Separately)

● Inlet piping model

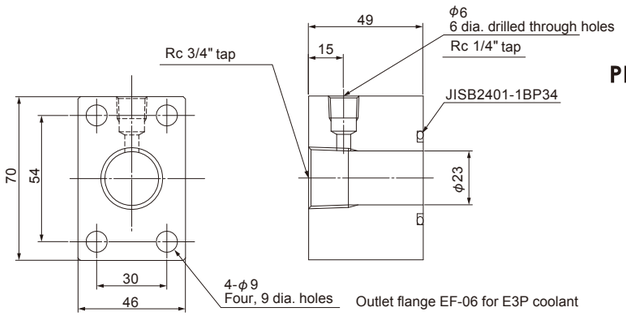
Model	Size
PS-L	350mm
PS-S	250mm

● Relief return piping model

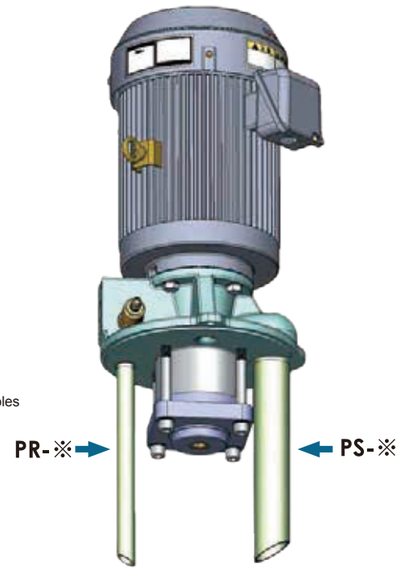
Model	Size
PR-L	350mm
PR-S	250mm

● Outlet piping flange type EF-06（Rc 3/4）

* A pipe can be screwed into the pump directly with no outlet piping flange.



Outlet flange EF-06 for E3P coolant



Motor Current Values

	Motor capacity	Motor type	Motor current value (A) 50Hz/200V	60Hz/200V	60Hz/220V
Direct connection type	1.5 kW	IE3	6.8	6.4	6.0
	2.2 kW	IE3	10.6	9.4	9.2
	4.0 kW	IE3	17.2	16.0	15.0
	5.5 kW	IE3	23.4	21.4	20.6
	7.5 kW	IE3	30.8	28.6	27.4

	Motor capacity	Motor type	Motor current value (A) 50Hz/200V	60Hz/200V	60Hz/220V	60Hz/230V	50Hz/400V	60Hz/400V	60Hz/440V	60Hz/460V
Bell flange type	3.7 kW	IE3	15.4	14.4	13.6	13.6	7.7	7.2	6.8	6.8
	5.5 kW	IE3	22.6	20.8	20.0	19.8	11.3	10.4	10.0	9.9
	7.5 kW	IE3	29.6	28.0	26.2	26.0	14.8	14.0	13.1	13.0
	11 kW	IE3	42.0	40.0	38.0	37.0	21.0	20.0	19.0	18.5
	15 kW	IE3	58.0	54.0	52.0	51.0	29.0	27.0	26.0	25.5
	18.5 kW	IE3	70.0	66.0	62.0	61.0	35.0	33.0	31.0	30.5
	22 kW	IE3	83.0	78.0	74.0	72.0	41.5	39.0	37.0	36.0

The current value of each motor may change without notice for technical improvements or other reasons.
Contact your Sumitomo representative for current values at different motor types（overseas high-efficiency motors）or voltages.

Micron-Mesh Conversion Table

Mesh （Mesh）	150	170	200	250	270	300	500	600	800	1000	1450
Micron（μm）	100	88	75	60	53	50	30	25	20	15	10

Required Flow Rate vs. Nozzle Diameter and Nozzle Pressure

Nozzle dia. × 2	Nozzle outlet pressure PSI （kgf/cm²） 1000.7(70)	855.7(60)	710.6(50)	565.6(40)	420.6(30)	290.0(20)	217.5(15)	145.0(10)
0.5×2	0.55	0.55	0.50	0.44	0.39	0.31	0.29	0.23
1.0×2	2.24	2.24	2.03	1.82	1.58	1.29	1.11	0.92
1.2×2	3.22	3.22	2.95	2.64	2.27	1.87	1.61	1.32
1.4×2	4.38	4.38	4.01	3.59	3.11	2.53	2.19	1.79
1.6×2	5.73	5.73	5.23	4.67	4.06	3.30	2.87	2.35
1.8×2	7.26	7.26	6.63	5.94	5.12	4.20	3.61	2.95
2.0×2	8.95	8.95	8.18	7.31	6.34	5.17	4.49	3.67
2.5×2	14.00	14.00	12.78	11.43	9.90	8.08	7.00	5.73
3.0×2	20.18	20.18	18.41	16.48	14.26	11.65	10.09	8.24

* Note: The flow rate of each pump in the table is a value calculated from the pressure just before the nozzle.
Conditions such as pressure loss between the pump and nozzle are not taken into consideration.

（Unit = usGPM）

Instructions

Thoroughly read the Instruction Manual and make sure you understand the information provided before attempting to operate the product.

【Liquid coolant】

1.When using water-soluble liquid coolant, set the concentration to at least 2%（i.e., a maximum dilution ratio of 50 times）.
2.Recommended filtration precision of liquid coolant
・CX: Approximately 20 to 30 μm ・CQTM: Approximately 20 to 30 μm ・E3P: Approximately 30 μm

【Operating precautions】

1.Inject a sufficient quantity of liquid coolant into the tank. The liquid coolant may be commingled with air bubbles immediately after injection. Operate the pump after the air bubbles disappear.
2.Drive the motor instantaneously and check the rotating direction of the motor. The motor must rotate clockwise viewed from the fan side of the motor.
3.The pump needs to be filled with a sufficient amount of liquid coolant at the time of the initial commissioning of the pump or after pump replacement. Perform inching several times（the intermittent operation of the motor）at 0.5- to 1-second intervals.
4.Consult your Sumitomo representative for the disassembling or reassembling the pump.
5.No load is set for the relief valve of the E3P before shipping. Make pressure settings according to the usage conditions. The pressure will rise with the pressure adjustment screw turned clockwise.

□Use of water-insoluble（oil-based）cutting fluid

CX, CQTM, and E3P pumps accept water-insoluble cutting fluid with no special modifications required. As shown below, the maximum operating pressure of each pump is high.

series	2M series	3.5M series	7M series	10M series
Max. operating pressure with oil-based cutting fluid	362.5PSI (25kgf/cm²)	710.6PSI (50kgf/cm²)	1421.3PSI (100kgf/cm²)	2132.0PSI (150kgf/cm²)

● Performance of water-insoluble cutting fluid This catalog shows performance values with water-soluble cutting fluid used. Contact your Sumitomo representative with the viscosity（mm2/s）of the cutting fluid specified if the discharge flow rate（usGPM）of oil-based cutting fluid is required.
● Contact your Sumitomo representative in advance for grinding and polishing applications or for cemented carbide and hard-to-cut materials such as ceramic and titanium.

SUMIJET X

SUMITOMO HIGH PRESSURE

COOLANT PUMP

Low-noise, High-pressure Coolant Pump System

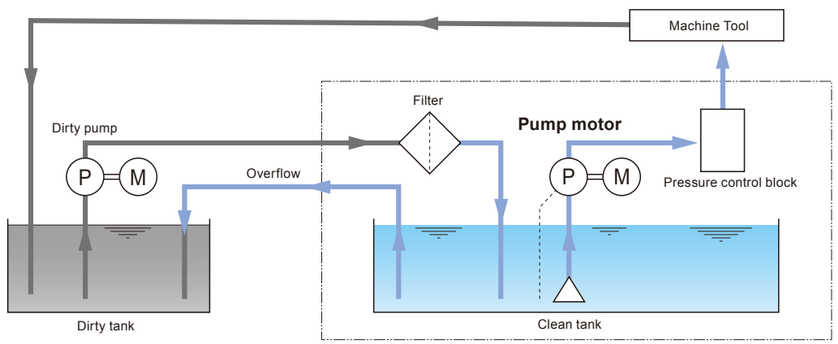
■SUMIJET-X

Each high-pressure coolant pump system of the SUMIJET-X Series is provided with CX, CQTM, and E3P pumps, which ensures high pressurization and reduces the number of person-hours required for processing, increases the precision of processing, and prolongs the life of tools. The system incorporating pumps, tanks, valves, and filters gives top priority to user needs.

〈Features〉
①Four types of filtration
X-B: Bag filter installed
X-C: Cyclone filter installed
X-E: Two-stage filter installed
X-W: Reverse-flow wash-type filter installed

②Sumitomo's unique inverter system achieves cycle operation control at optimum motor rotation speed, thus contributing to a significant reduction in power consumption（an optional function）.

System Overview

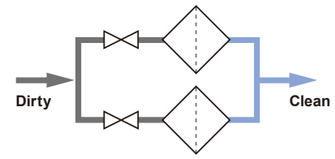
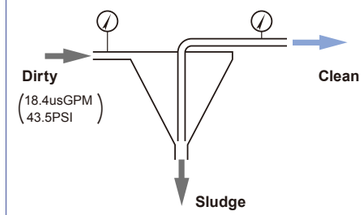
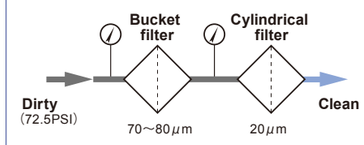
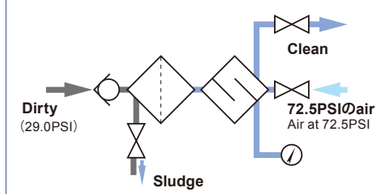


SUMIJET-X

The quipped pumps are CX-, CQTM-, and E3P-series pumps.

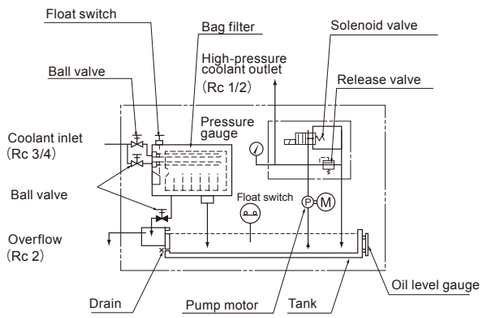
List of Standard Systems

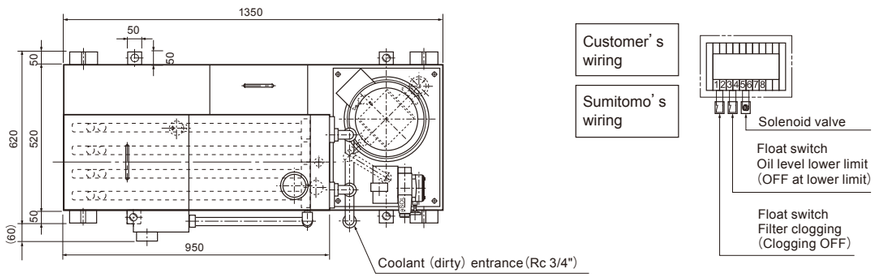
Each of the following types is available according to the filtration method.

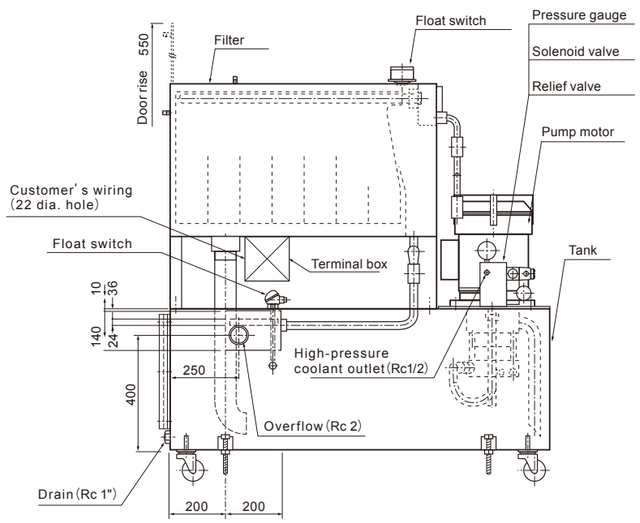
Series name	Filtration method	Filter sketch	Description and features
SUMIJET X-B	**Parallel bag filtration**		● The cloth bag filters are installed in parallel. ● Filter replacement is possible with the valve opened and closed while in operation.
SUMIJET X-C	**Cyclone type**		● Sludge is discharged from the lower nozzle the vortex flow in the nozzle. The clean fluid is discharged from the upper nozzle.（The principle of hydrocyclone） ● No maintenance is required. ◎ The use of oil-based fluid is not recommended because oil-based fluid results in filter efficiency degradation.
SUMIJET X-E	**Two-stage filtration**		● The filters are installed in series. ● The first-stage filter is for rough filtration. The filter consists of a metallic element that can be washed and reused. ● The second-stage filter has a wide filtration area with a slow clogging speed.（A low maintenance frequency）
SUMIJET X-W	**Reflux cleaning type**		● The filter is backwashed regularly with the factory air pressure. ● Basically, no maintenance is required.

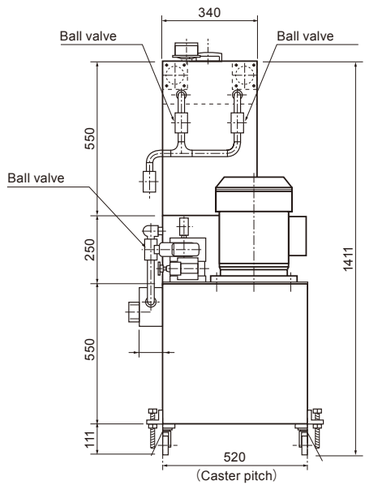
Illustrated Dimensional Example

SUMIJET X-B



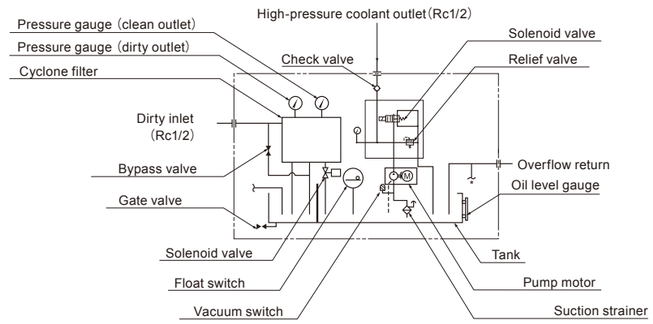


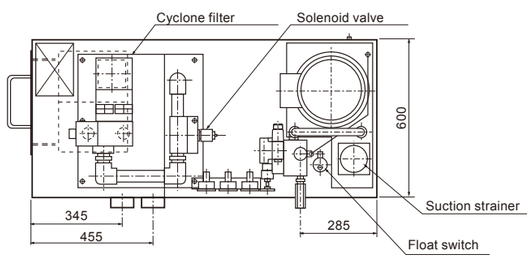


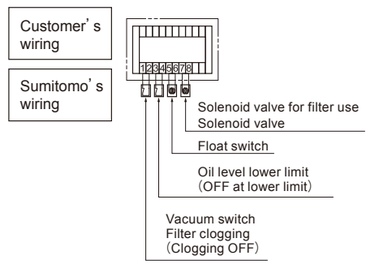


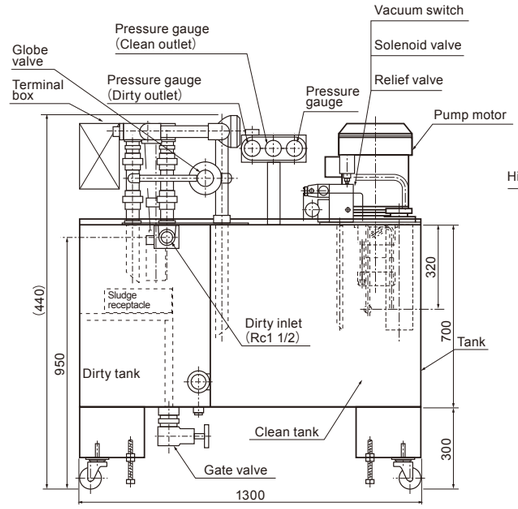
Various other shapes are available.

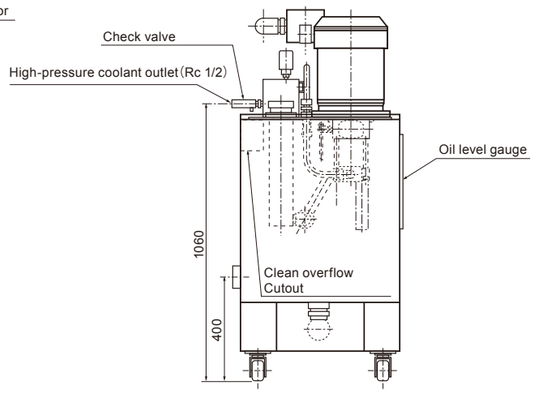
SUMIJET X-C











Various other shapes are available.

1. Before Use

1) Getting Started

Read the following instructions and make sure you understand them before attempting to operate the product.

a) Observe the usage method and restrictions described in the Instruction Manual.
b) Personal injury or property damage may occur as a result of a product breakdown or damage if the product is used in methods not specified in the Instruction Manual or beyond the performance limits of the product.
c) Due to product improvements continuously made, the product at the time of purchase may differ in design and performance from the corresponding model specified in this catalog.
d) Feel free to contact your Sumitomo representative or the nearest Business Group office of Sumitomo's Industrial Hydraulic Department if you have any inquiries about the purchased product or the content of this catalog.

2) Verification of Purchase and Order

After purchasing the pump, check that the model number in the nameplate on the pump with the product ordered.

3) Safety Precautions

The following conventions are used to indicate and classify precautions in this manual.

⚠ DANGER : Indicates information on imminent danger that, if not heeded, is likely to result in loss of life or serious injury.

⚠WARNING : Indicates information on potential danger that, if not heeded, could possibly result in loss of life or serious injury.

⚠ Caution : Indicates information on potential danger that, if not heeded, could result in relatively serious or minor injury or property damage.

2. Safety Precautions

1) Precautions for the installation, removal, and installation of the product

⚠WARNING : Do not transport the product by human power. Always use the motor hanger bolt and transport the product with a hoist or other appropriate equipment.
Never approach the product being lifted and transported.

⚠WARNING : Check that the hanger bolt is firmly tightened before using it.
After the product is mounted to equipment, do not host the entire equipment with the hanger bolt.
Doing so may cause damage to the hanger bolt and the falling or toppling of the equipment and result in injury or property damage.

⚠WARNING : Do not lift the pump side in a cantilever way or shock the pump.
Doing so may result in pump malfunctioning.

⚠WARNING : Only personnel with expert knowledge may mount, dismount, and install the product.

⚠WARNING : Be sure to turn off the power of the equipment and remove the residual charge on the circuit before mounting, dismounting, and installing the product.
The product and liquid coolant may be at high temperatures after the product is operated.
Take action after checking that they are at safe temperatures (i.e., 40° C or below).

⚠WARNING : Never place flammable materials around the motor. Doing so may result in a risk of fire.

⚠WARNING : Do not place obstacles that impede ventilation around the motor.
Doing so may hinder the cooling of the motor and result in an explosion, ignition, or burns.

⚠ Caution : Do not stand on the pump or motor, hit them, or apply external force.
Doing so may cause a danger of injury or damage.

2) Precautions while in Operation

⚠WARNING : Use the product within the specified ranges of operating environment conditions, including the ambient temperature and liquid coolant temperature ranges.
Using the product outside the specified ranges of operating environment conditions may cause product malfunctioning, destruction, or even a fire.

⚠WARNING : Be sure to turn off the power switch if a power failure occurs.
Injury may occur if the power is restored unexpectedly.

⚠WARNING : Stop operating the product immediately if an abnormality occurs. Otherwise, an electric shock, injury, or fire may result.

⚠WARNING : Do not insert fingers or things into the opening of the motor.
Doing so may result in an electric shock, injury, or fire.

⚠ Caution : The product will operate at very high temperatures.
Do not touch the product in operation with bare hands.

⚠ Caution : Do not insert fingers or things into the rotating part (i.e., the motor fan).
Doing so may result in injury or product damage.

⚠ Caution : Dust, if accumulated on the motor fan cover, will hinder ventilation to cool the motor, which will cause a risk of abnormal heat generation resulting in motor malfunctioning.
Clean the motor fan cover periodically.

3) Maintenance precautions

⚠ Caution : Do not disassemble, reassemble, or modify the product without Sumitomo's consent.
The product, if disassembled, reassembled, or modified without Sumitomo's consent, will be beyond the scope of the product warranty, and Sumitomo will not assume any responsibility for the product.

4) Wiring

⚠WARNING : Check that the frequency and voltage specified on the nameplate on the motor nameplate coincide with the frequency and voltage supplied.
Motor burnout or fire may result if they are different.

⚠WARNING : Connect the motor to the power supply cable according to the connection diagram on the back of the lid of the terminal box or the corresponding connection diagram in this catalog.
Incorrect wiring may result in an electric shock, or fire.

⚠WARNING : Do not bend, pull, or pinch the power cable or motor lead wire forcibly.
Doing so may result in an electric shock.

⚠WARNING : Only personnel with expert knowledge may wire the product in accordance with applicable electrical equipment technical standards, wiring rules, and power company regulations.
Improper wiring may result in burnout damage or fire.

⚠WARNING : Do not touch any terminals at the time of insulation resistance measurement.
Doing so may result in an electric shock.

⚠WARNING : The motor is not provided with protective devices. Be sure to install the overload protection device as it is mandatory in accordance with electrical equipment technical standards.
Sumitomo recommends the installation of protective devices other than the overload protection device (e.g., an earth leakage breaker) as well.

⚠WARNING : Make sure that the grounding terminal is securely grounded.
The improper grounding of the terminal may result in an electric shock.

⚠ Caution : Wire the product so that there will be no short-circuiting between wires.
Remove the short circuit plate if a star delta starter is connected.

5) Operating environment

⚠ DANGER : Do not use the product in an explosive atmosphere.

Doing so may result in fire or personal injury.
Do not use the product under special atmospheric conditions,
such as operating conditions with high temperature and humidity.

6) Starting the pump

⚠ Caution : Do not start the pump with a load on it.
Doing so may result in internal damage to the pump.

⚠ Caution : Do not operate the pump with no fluid inside.
Doing so may cause the seizing of the pump resulting in an operation failure.

⚠WARNING : Turn off the equipment and check that there is no residual charge on the circuit when inspecting the pump.

3. Disassembly, assembly, and repairs

⚠ Caution : Do not disassemble, reassemble, or modify the pump or motor without Sumitomo's consent.
The pump or motor, if disassembled, reassembled, or modified without Sumitomo's consent, will be beyond the scope of the product warranty, and Sumitomo will not assume any responsibility for the pump or motor.

⚠WARNING : Be sure to turn off the power of the equipment and remove the residual charge on the circuit before mounting or dismounting the pump or motor.

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	All World Machinery Supply Inc.	6164 Allworld Way Roscoe, IL 61073	+1-815-943-9111
	Machine and Components Industries	2711 Grassland Dr. Louisville KY 40299	+1-502-499-5999
	Motion Industries Inc.	1605 Alton Rd. Birmingham AL 35210	+1-205-956-1122
Mexico	Tokyo Sangyo Machinery, S.A de C.V	Av. Las Americas #608-203, Fracc. La Fuente Aguascalientes, Ags., C.P 20239	+1-449-915-5091
South Korea	HANSE KOREA Co., Ltd.	#503,DAERUNG TECHNOTOWN 7CHA,489-11 GASAN-DONG,GEUMCI-KU,SEOUL,KOREA	+82-2-2108-4511
	NAMYANG ENTERPRISE Co., Ltd.	RM,1501 Leaders Tower,60-15 Gasan-dong,Geumcheon-gu,Seoul	+82-2-2026-6873
China	HY SOUTH TECH (SHENZHEN) CO., LTD	22/F, Unit B, King Force Tower Bldg, Shennan East Rd, Shenzhen, China	+86-755-8209-0678
	MAXMA FLUID POWER INC.	No. 55 Jiangnan W. Road, Beilun, Ningbo, Zhejiang, China	+86-574-8777-5587
	SHENZHEN SANHUI TECHNOLOGY CO., LTD	No.28 Bu Yong Industrial Road, Shajing, Baoan, Shenzhen, Guangdong Province, China	+86-755-2647-8575
	Professional Hydraulic Industrial Co., Ltd.	7F-5, No. 12, Lane 609, Sec.5, Chung Hsin Rd., San-Chung Dist, Taipei, Taiwan	+886-2-2999-7998
	HUA QIN HYDRAULIC EQUIPMENT Co., Ltd	Xiao Bian Automobile Repair Center 107 Chang An Town,Dongguan,Guangdong	+86-769-8532-5789
	Sumitomo Precision Shanghai Co., Ltd.	A1-A3, 5 / F, Xinda Building, 1399 West Beijing Road, Shanghai	+86-21-6279-1199
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	KSMC Vietnam Joint Stock Company (Ho Chi Minh Branch)	C11, Cu xa Lam Son, Nguyen Oanh, 17 Ward, Go Vap District, HCM City, Vietnam	+84-8-5446-1459
	PT. Kendali Paramita	JL. Griya agung N3-38/42, RT. 002 RW20 Sunter Agung. Tanjung Priuk, Jakarta Ultra	+62-21-6500-691
	World Pumps (Thailand) Co., Ltd.	599/99 GP.6 Soi Annext Saimai Phaholyothin Rd., Saimai Bangkok, Thailand	+66-2993-5858
	JS Drive Engineering (M) SDN BHD	No.160A, Jalan Raja Uda, Pusat Perniagaan Raja Uda, Penang Malaysia	+60-4-313-4245
	R.I.K Industrial Pte Ltd	Unit 13 Citywalk Building Admiral Road, Talon 3 Las Pinas City	+63-2-556-2556
India	Motherson Machinery and Automations Limited	Off.:D 59&60, Sector-6, Noida-201 301, Distt, G.B. Nager, (U.P)	+91-120-4100-789
Europe	SAUER BIBUS	Lise-Meitner-Ring 13 89231 NEU-ULM GERMANY	+49-731-1896-159