

INSTALLATION MANUAL

UNIC HYDRAULIC CRANE FOR MARINE USE

MODEL
UBA SERIES

UBA260 series
UBA340 series
UBA500 series

FURUKAWA UNIC CORPORATION

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IMUBA200605A
PRINTED IN JAPAN

TABLE OF CONTENTS

1. GENERAL VIEW1- 1

2. CRANE INTTALLATION GUIDE

- ① Position of instalation2- 1
- ② Dimensions of crane base for instalation ...2- 1
- ③ Base for mounting crane2- 2
- ④ [Optional] Round-shaped base2- 3
- ⑤ Storage of boom and hook2- 5

3. SELECTION OF PUMP AND ELECTRIC MOTOR3- 1

4. SELECTION OF OIL TANK4- 1

5. PIPING PROCEDURES

- ① Mounting of control valve5- 1
- ② Hose connection5- 2
- ③ Piping port connecting control valve5- 4
- ④ Port connecting piping on the side5- 5
- ⑤ Hoses connecting to piping on
the bottom side5- 6
- ⑥ Caution for piping5- 8
- ⑦ How to check recommended allowable
back pressure of control valve5- 9
- ⑧ Hydraulic circuit of crane5-10

6.ZERO-POINT ADJUSTMENT OF LOAD METER.....6- 1

7.ATTACHMENT OF CHART OF RATED LOAD STICKERS7- 1

8. RECOMMENDED COMPONENTS

- ① Pump and electric motor8- 1
- ② [Optional] Hydraulic equipment8- 2
- ③ [Optional] Components for piping between
control valve and crane body8- 4
- ④ [Optional] Mounting base for
control valves8- 5
- ⑤ [Optional] Installation of radio/
reote controller8- 6

9. OVERALL VIEW OF CRANES

- ① UBA263 (3-section boom)9- 1
- ② UBA264 (4-section boom).....9- 2
- ③ UBA343 (3-section boom)9- 3
- ④ UBA344 (4-section boom)9- 4
- ⑤ UBA345 (5-section boom)9- 5
- ⑥ UBA503 (3-section boom)9- 6
- ⑦ UBA504 (4-section boom)9- 7
- ⑧ UBA505 (5-section boom)9- 8

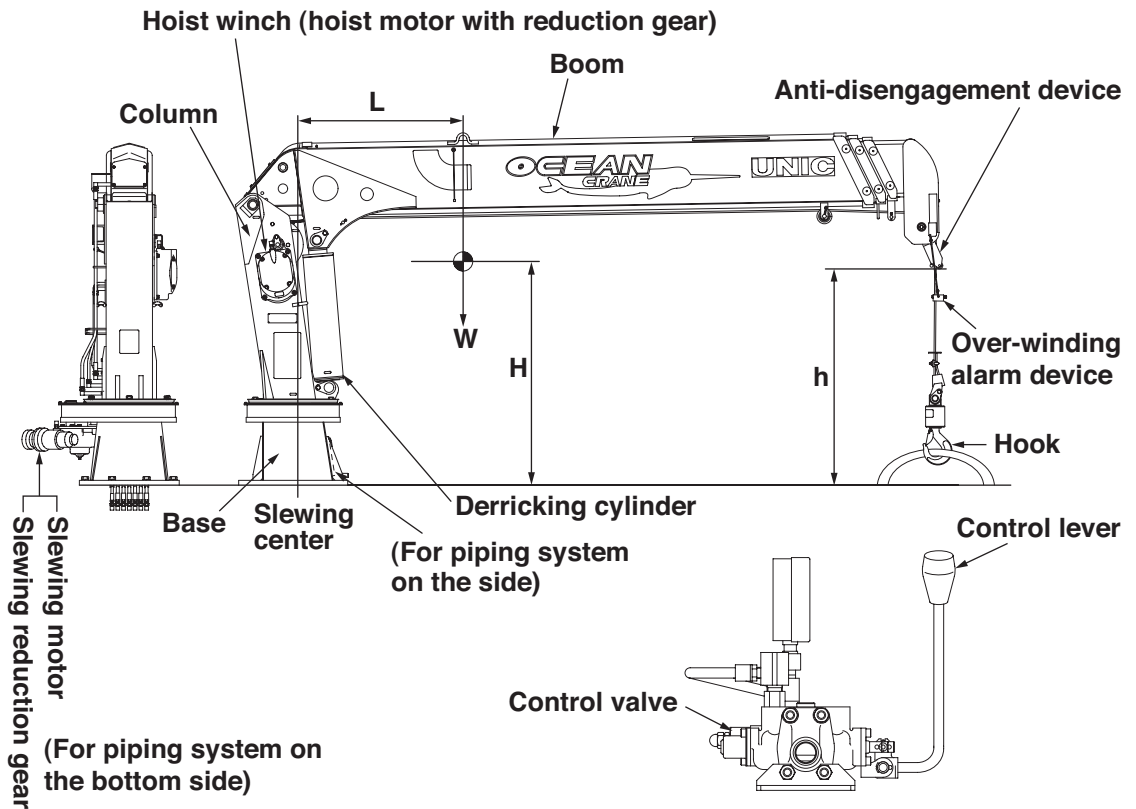
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1. GENERAL VIEW

Weight, distance from gravity center, and height of gravity center of UBA series



Model	W (kg): Weight at gravity center	L (mm): Distance to gravity center	H (mm): Height of gravity center	h (mm): Height to bottom of anti-disengaging device
UBA503	1040	685	1160	1280
UBA504	1220	875	1250	1290
UBA505	1330	950	1290	1290
UBA343	790	690	1080	1130
UBA344	935	885	1165	1120
UBA345	1010	960	1195	1120
UBA263	550	520	915	980
UBA264	695	740	1055	970

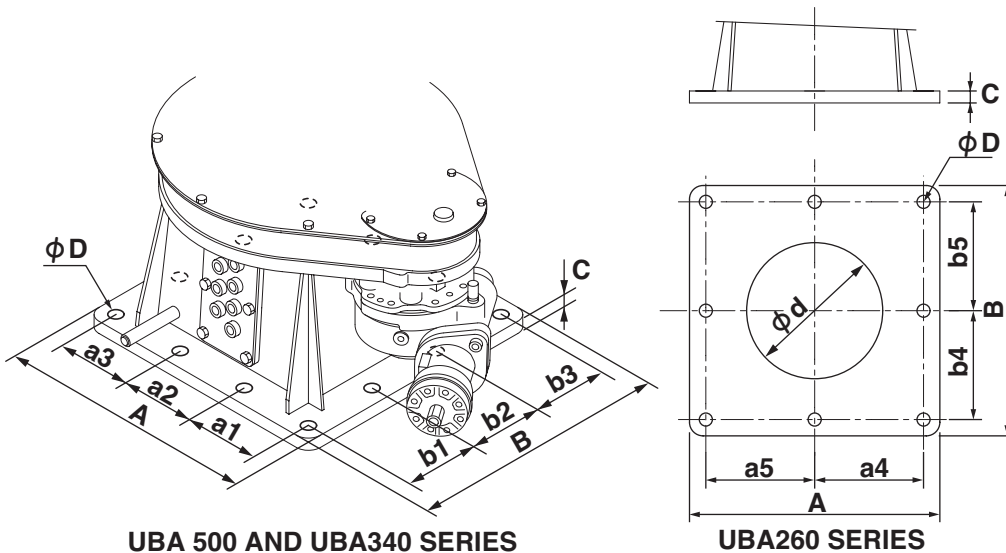
- Prepare the components to be installed on the crane (mounting base, hydraulic unit, hoses, and bolts) to mount them.
- Weight of 15kg of control valves and related components does not include in the weight illustrated in the table above.
Weight of the control valves and related components for the radio remote controller is 45kg.

2. CRANE INTTALLATION GUIDE

① POSITION OF INSTALATION

When deciding where to install the crane, it is no doubt to decide it in considering the most convenient operation of the crane, but in case of mounting it on a small vessel, install it at the position where the least fluctuation of the trim (difference between the head and the stern) and of lateral slanting (or at the center of the ship) will be expected while sailing or operating the crane in particular.

② DIMENSIONS OF CRANE BASE FOR INSTALATION



UBA 500 AND UBA340 SERIES

UBA260 SERIES

(UNIT : mm)

Model	A	B	C	ϕ D	Installation Bolt
UBA500 SERIES	600	600	28	ϕ 26 (12 places)	M24×3.0 Equivalent to 10.9 12pcs [Tightening torque: 275~314N-m (28~32kgf-m)]
UBA340 SERIES	520	520	25	ϕ 24 (12 places)	M22×2.05 Equivalent to 10.9 12pcs [Tightening torque: 206~245N-m (21~25kgf-m)]
UBA260 SERIES	460	460	22	ϕ 24 (8 places)	M22×2.5 Equivalent to 10.9 8pcs [Tightening torque: 206~245N-m (21~25kgf-m)]

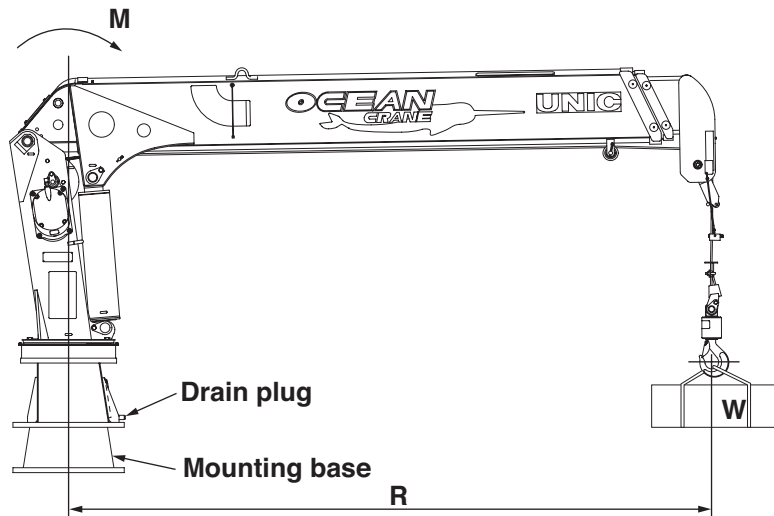
Model	a ₁	a ₂	a ₃	a ₄	a ₅	b ₁	b ₂	b ₃	b ₄	b ₅	ϕ d
UBA500 SERIES	180	180	180			180	180	180			ϕ 300
UBA340 SERIES	140	180	140			140	180	140			ϕ 250
UBA260 SERIES				200	200				200	200	ϕ 200

3 BASE FOR MOUNTING CRANE

- ◆1. Determine the height of mounting base so that it will not hit against the protrusions such as of the bridge while slewing the crane.
* Pay attention that gravity center will not be too high when mounting it on a small vessel to keep stability.
- ◆2. Junction of the mounting base to the hull is most important.
Examine strength by referring to the values illustrated below to secure sufficient strength.
(Since the values are calculated data, they should be referred as a yardstick.)

Model		UBA260 SERIES	UBA340 SERIES	UBA500 SERIES	Remarks
Moment around slewing center $M=W \times R$ kN·m [kgf·m]		54.9 {5600}	88.3 {9000}	133.4 {13600}	Including weight of crane itself Coefficient for dynamic load:1.25 Coefficient for static load :1.10
Strength of mounting bolts	Tensile side kN [kgf]	42.2 {4300}	44.1 {4500}	58.8 {6000}	Load to be applied per bolt
	Compressive side kN [kgf]	48.1 {4900}	50.0 {5100}	64.7 {6600}	

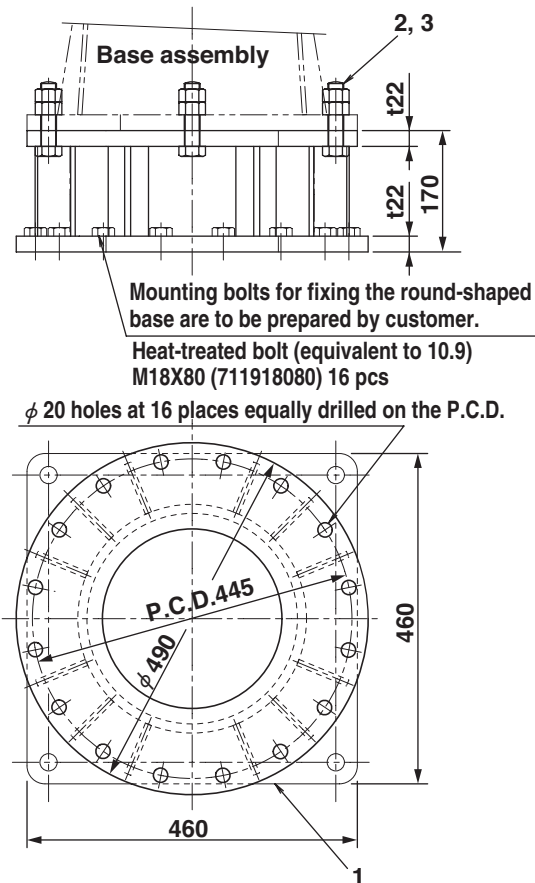
- ◆3. When installing the crane on an inclined plane, allow the mounting surface of base to be level first to install the crane..
- ◆4. Install both the crane base and the mounting base with mounting bolts.
Secure the mounting bolts by means of double-nut system or by application of locking agent to prevent them from being loose.
- ◆5. Set up a drainage hole at the bottom of the mounting base to drain water.
If the drainage hole is impossible to be set up, instruct operators to drain water periodically out of the drain plug in the crane base.



4 [OPTION] ROUND-SHAPED BASE

◆When mounting the crane on a round-shaped mounting base, use a round base (spacer) illustrated below.

UBA260 series



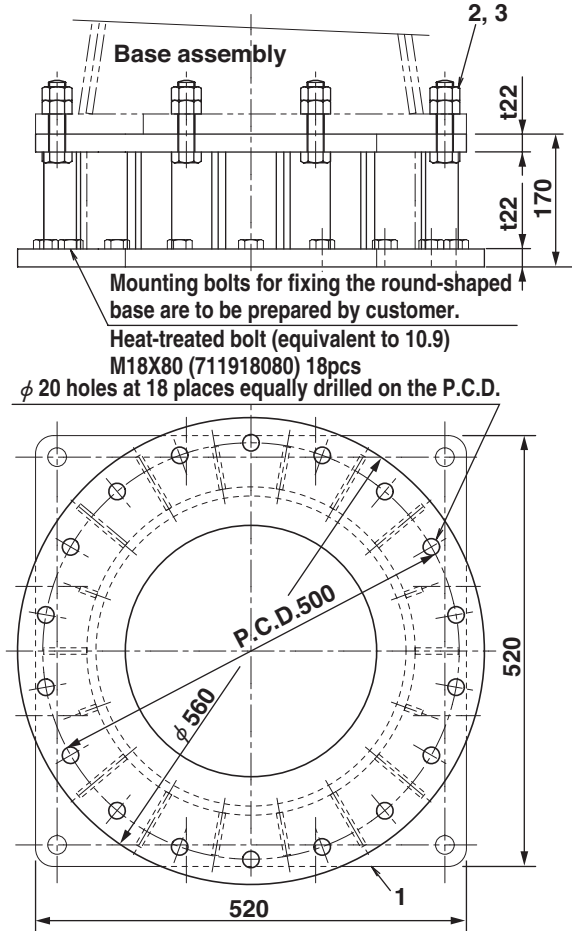
Note: Mounting dimensions of the round-shaped base are the same as those of the old type ZF260MR series provided by “T” company.

Parts list

Mounting of round-shaped base
Device number: 09E057000

Item	Part name	Part number	Q'ty
1	Round base	09E057010	1
2	Heat-treated bolt (M22×90L)	711922D90	8
3	Nut	72111122D	16

UBA340 series



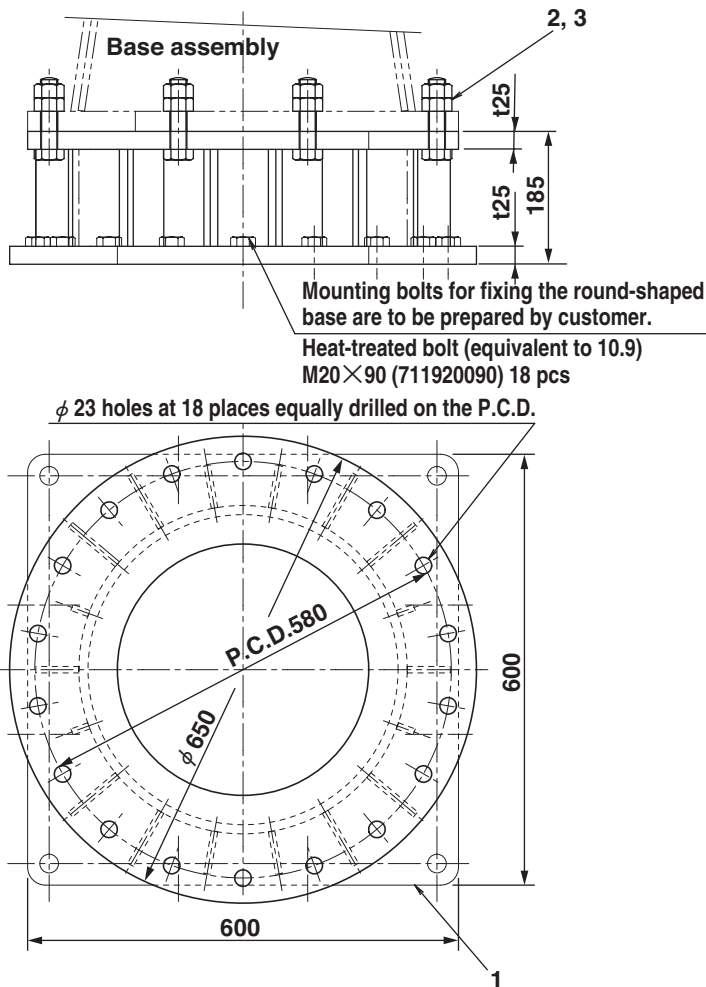
Note: Mounting dimensions of the round-shaped base are the same as those of the old type ZF300MR series provided by “T” company.

Parts list

Mounting of round-shaped base
Device number: 099857000

Item	Part name	Part number	Q'ty
1	Round base	099857010	1
2	Heat-treated bolt (M22×90L)	711922D90	12
3	Nut	72111122D	24

UBA500 series



Note: Mounting dimensions of the round-shaped base are the same as those of the old type ZF500MR series provided by “T” company.

Parts list

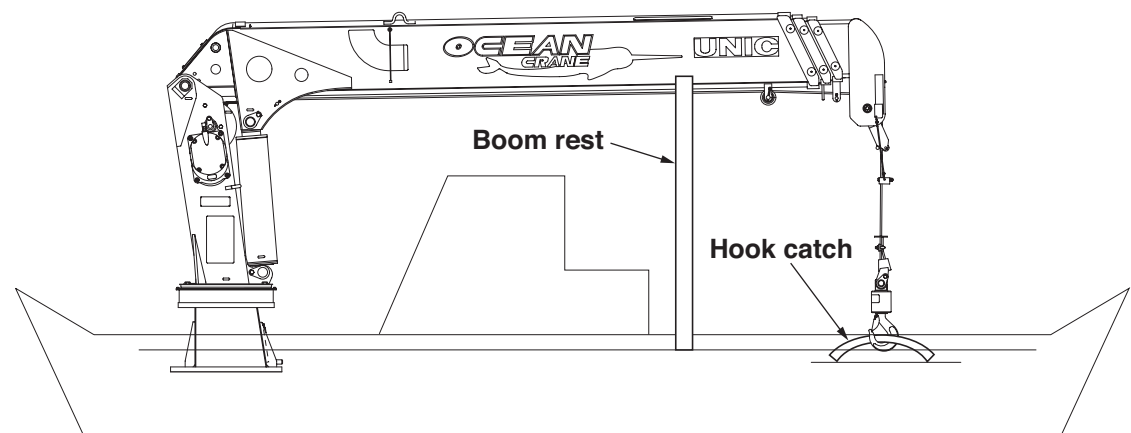
Mounting of round-shaped base

Device number: 096C57000

Item	Part name	Part number	Q'ty
1	Round base	096C57010	1
2	Heat-treated bolt (M24×100L)	760129083	12
3	Nut	72111124D	24

5 STORAGE OF BOOM AND HOOK

Mount a boom rest and a hook catch for fixing the lifting hook to reduce impact to the crane due to waves during sailing of the ship.



CAUTION

- ★ Mount the crane on a level surface to prevent it from being tilted during crane operation.

3. SELECTION OF PUMP AND ELECTRIC MOTOR

Set up the hydraulic source by referring to the following table.

Model	UBA500 SERIES	UBA340 SERIES	UBA260 SERIES
Rated pressure MPa {kgf/cm ² }	19.6 {200}	17.2 {175}	17.2 {175}
Rated flow l/min	60	60	53
Recommended pump (1) For engines with accelerator Theoretical delivery:cm ³ /rev Max. revolution speed in use:min ⁻¹ (Max. speed in use:rpm) (Delivery:l/min)	44 1400 (1400) (60)	36 1700 (1700) (60)	33 1700 (1700) (53)
(2) For engines without accelerator Theoretical delivery:cm ³ /rev Max. revolution speed in use:min ⁻¹ (Max. speed in use:rpm) (Delivery:l/min)	27 1500 (1500) (40)	27 1500 (1500) (40)	23 1500 (1500) (35)
(3) For electric motor ① 50Hz area Theoretical delivery:cm ³ /rev Revolution speed in use:min ⁻¹ (Revolution in use:rpm) (Delivery:l/min)	23 1450 (1450) (32)	23 1450 (1450) (32)	20 1450 (1450) (28)
②60Hz area Theoretical delivery:cm ³ /rev Revolution speed in use:min ⁻¹ (Revolution in use:rpm) (Delivery:l/min)	20 1750 (1750) (33)	20 1750 (1750) (33)	18 1750 (1750) (30)
Recommended electric motor Sealed outer-fan type AC200V 4-pole	15KW or over	15KW or over	11KW or over



CAUTION

- ★ Confirm rotating direction of the pump.
- ★ When hydraulic power is less than the rated pressure and the rated flow of the crane, the rated crane operation may not be carried out.
- ★ When hydraulic power is more than the rated flow of the crane, adjust the hydraulic power to a level that is less than the rated flow by flow control valve or the like.
In this case, set up a oil tank with sufficient capacity as the oil temperature will be easy to rise.

4. SELECTION OF OIL TANK

- 1**
- Use a oil tank with sufficient capacity so that oil temperature will not rise over 80°C.
 - In normal crane operation, a tank with the capacity of 1.5 times as much as the rated flow is needed.
 - Place the mounting base for the crane body at a position where it is level or higher against the position of the oil tank.

- 2** Use an oil tank of open type.

- 3** Recommended filter:

Suction side: Filtration of 100-mesh.

Return side: Filtration of 10 μ

- 4** Recommended hydraulic oil:

Use industrial-type hydraulic oil;
ISO VG 46 for most temperatures
ISO VG 32 extremely low temperatures

- 5** Allowable operating hydraulic oil temperature range for the crane is -15°C~80°C.



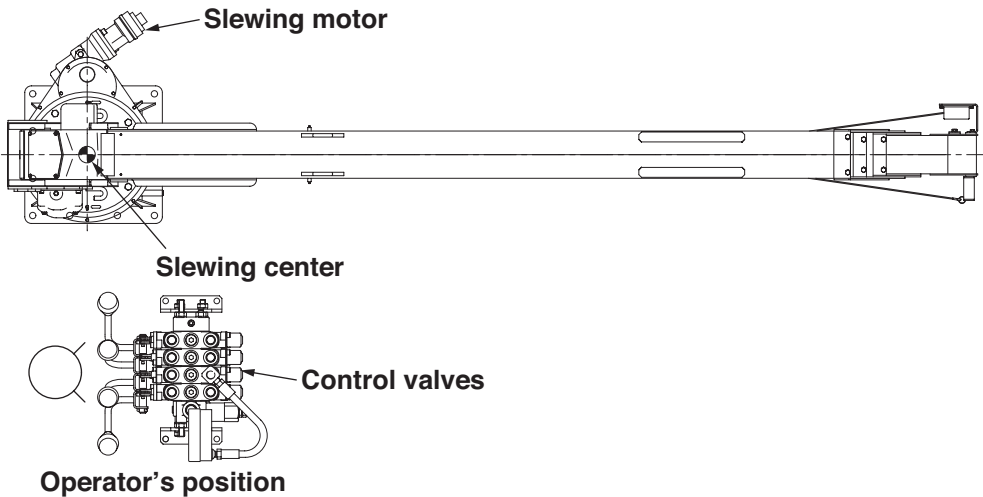
CAUTION

- ★ Oil tank of closed type allows the back pressure to be generated in the return circuit due to variation of oil flow to give a bad effect on valves.
- ★ Since mixing foreign substances with the hydraulic oil exerts an bad effect on hydraulic equipment, be sure to fit suction filter and return filter.

5. PIPING PROCEDURES

① MOUNTING OF CONTROL VALVE

◆1. Recommended position for mounting control valve



◆2. Preparation of a cover

When the crane is to be operated with the control valves set up outside and the crane itself will be left for a long period of time, it is recommended to put a cover over the valves to maintain normal functions of the valves.

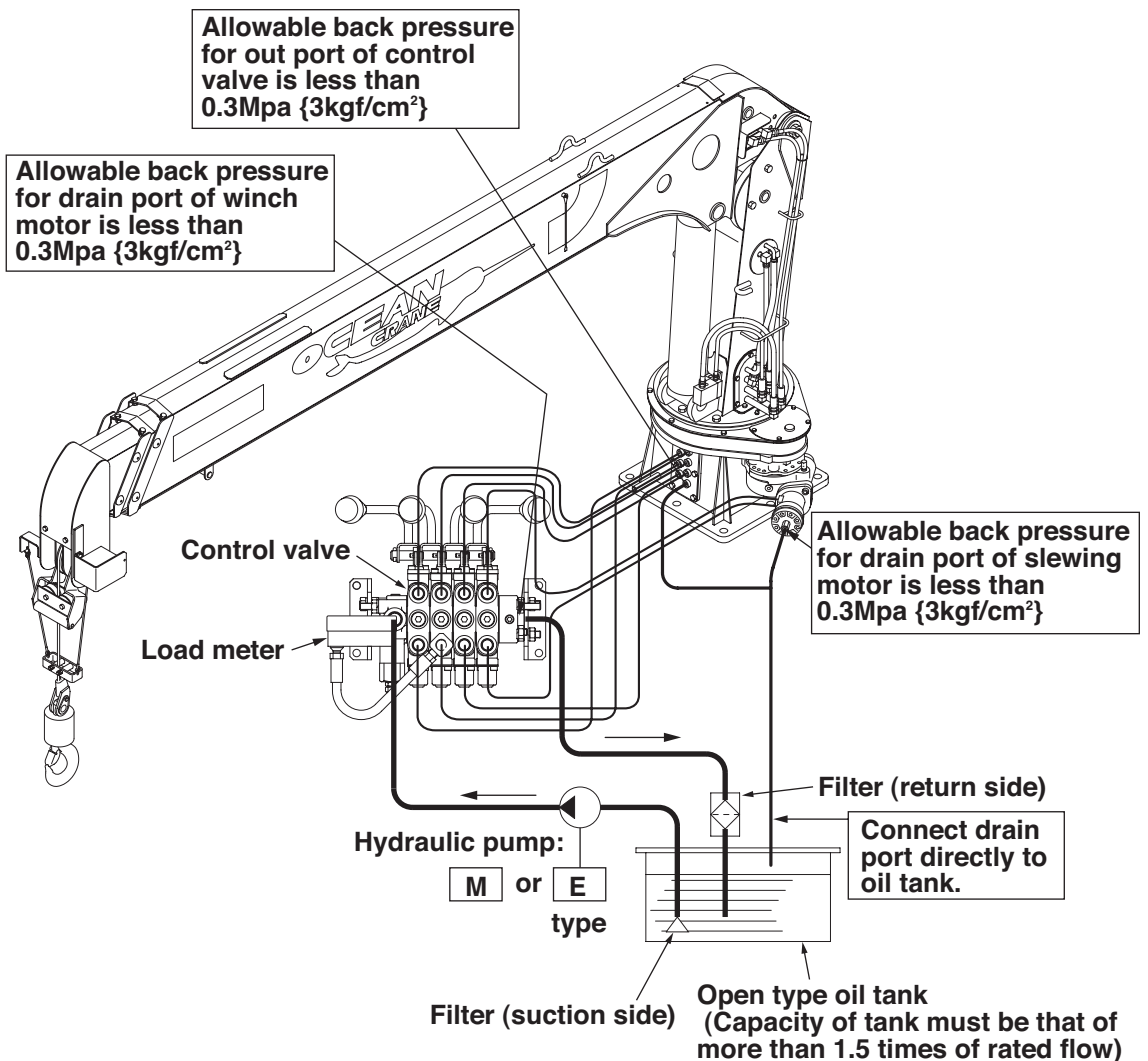
2 HOSE CONNECTION

When piping on the side or on the bottom side, connect each hydraulic equipment by referring to each piping example.

In addition, when designing hydraulic circuit all over the ship on the customer side, return oil out of the control valves for the crane to the oil tank directly.

◆1. Recommended connection of hydraulic equipment when piping on the side
Piping length and pipe size being applied may allow piping resistance to be increased causing troubles with the crane.

Lay pipes in accordance with “CAUTION FOR PIPING” illustrated on page 5-8 .



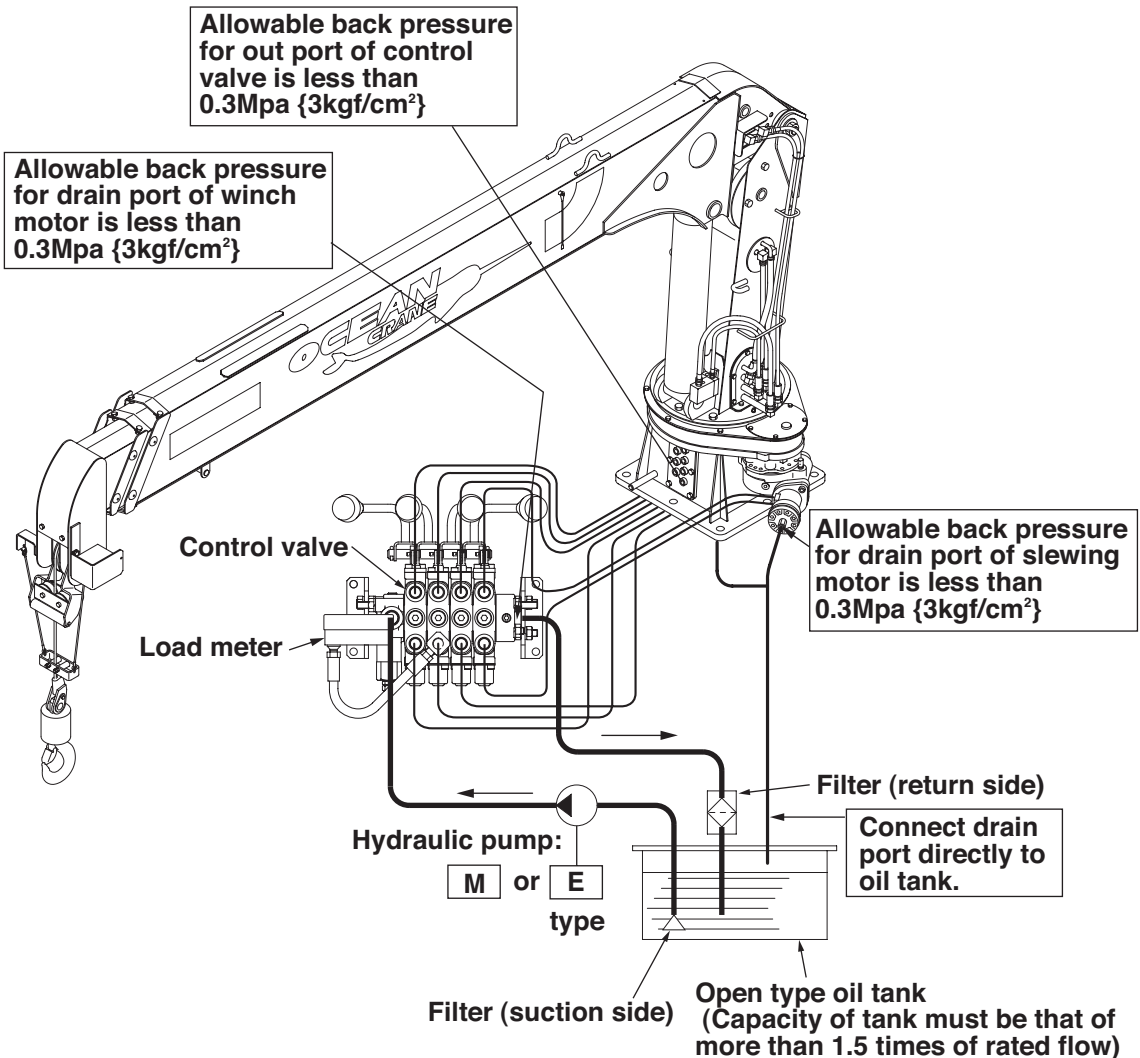
PIPING PROCEDURES

◆2. Recommended connection of hydraulic equipment when piping on the bottom side

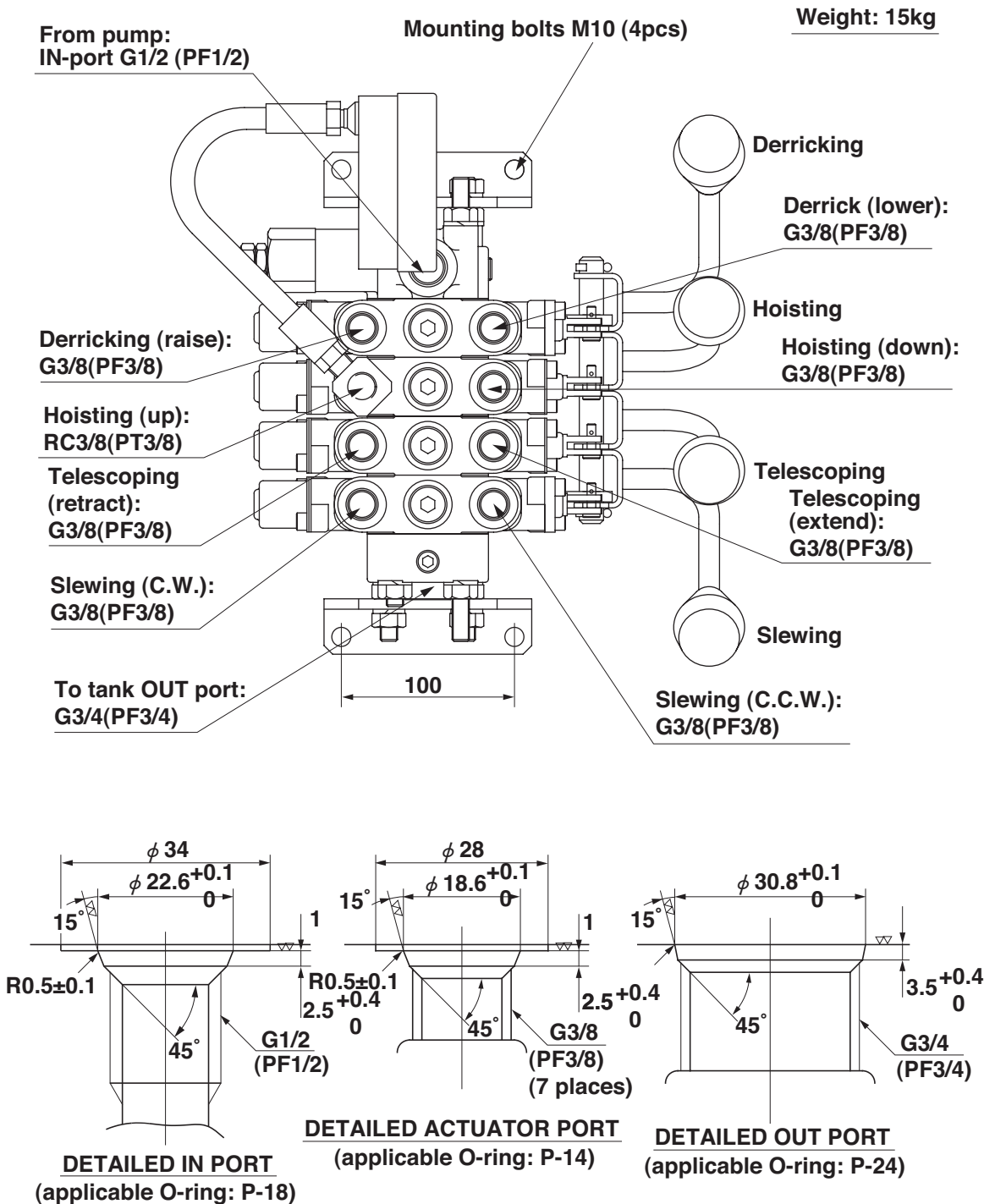
Lay the hoses come out of the bottom side of the crane body according to the instruction sticker stuck on the securing hardware of the hoses

Piping length and pipe size being applied may allow piping resistance to be increased causing troubles with the crane.

Lay pipes in accordance with “CAUTION FOR PIPING” illustrated on page 5-8 .

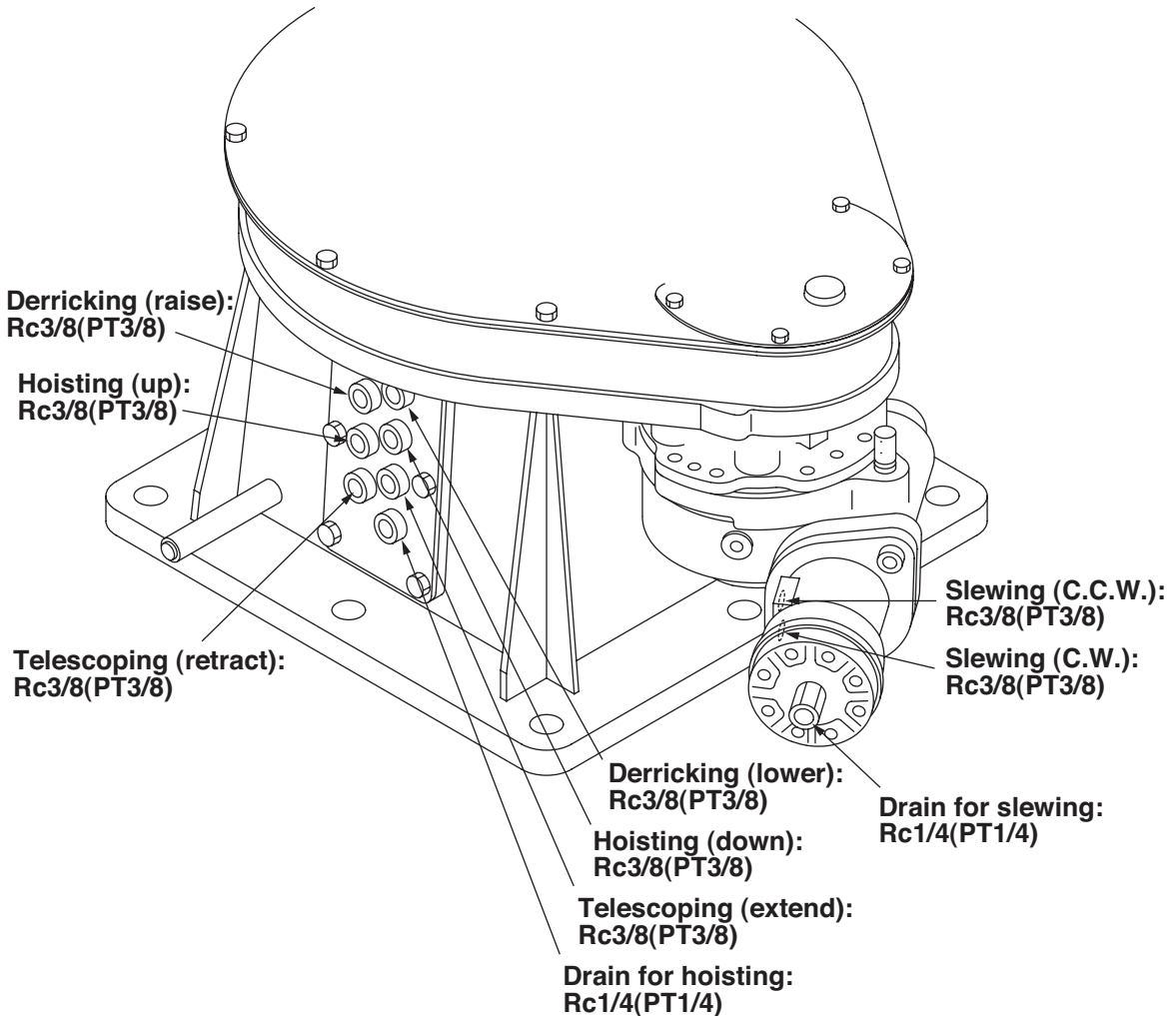


3 PIPING PORT CONNECTING CONTROL VALVE



4 PORTS CONNECTING TO PIPING ON THE SIDE

Note) Shape of slewing motor for UBA500 series is different from others.



5 HOSES CONNECTING TO PIPING ON THE BOTTOM SIDE

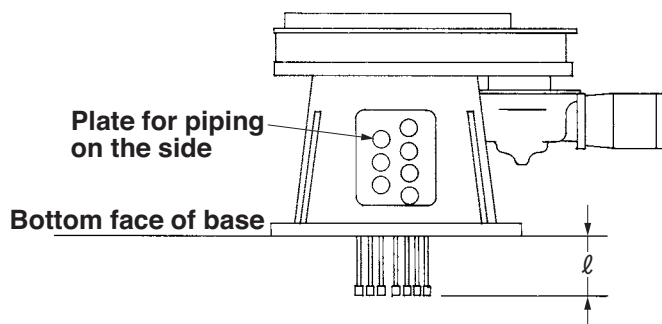
The crane is to be shipped with piping system on the side.

In order to change it from the piping on the side to that on the bottom side, follow procedures illustrated below.

PROCEDURES

- ① Unfasten M8 bolts (6 places) mounting the plate for piping on the side to remove the plate.
- ② Disconnect the hoses out of the plate to put them out to lower side.
- ③ Put the cover over the window on the side.

Ordering name: Cover P/N: 088D565030

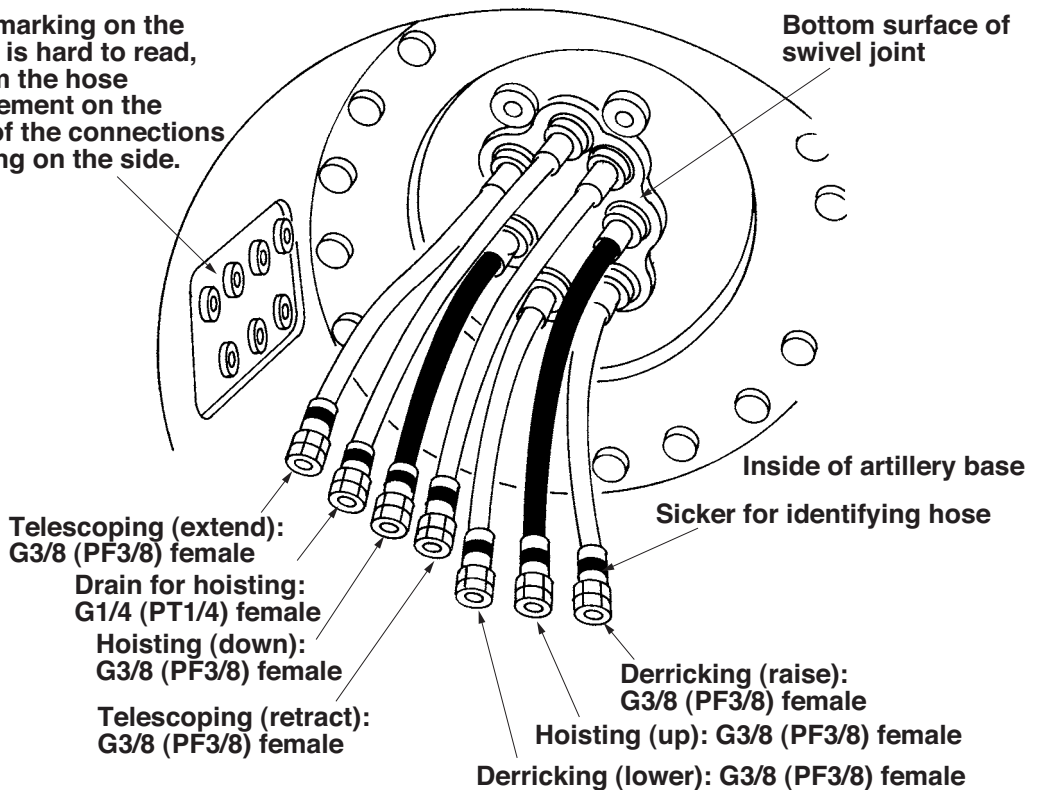


Length of hoses from bottom face of base

Model	Hose length
UBA500 SERIES	Approx. 100mm
UBA340 SERIES	Approx. 130mm
UBA260 SERIES	Approx. 230mm

◆1. Position of hoses

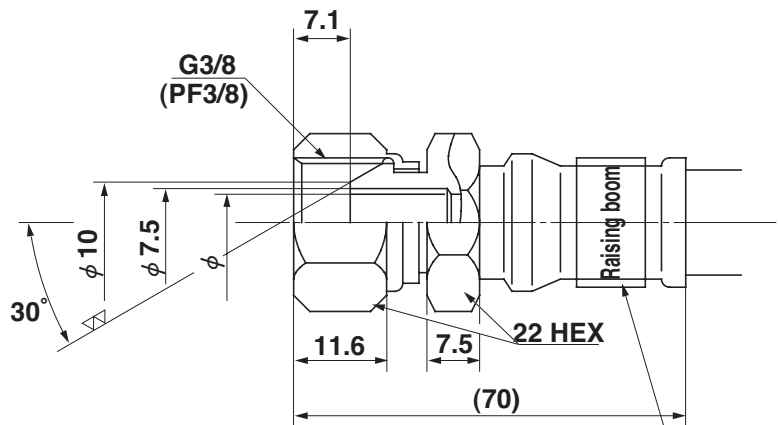
When marking on the sticker is hard to read, confirm the hose arrangement on the basis of the connections of piping on the side.



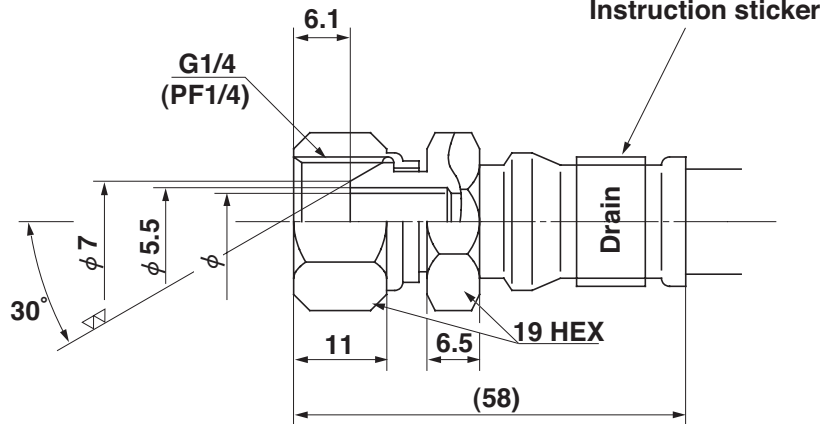
PIPING PROCEDURES

◆2. Shape of hose connections at their bases

PF3/8 (Hose : Q'ty 6)



PF1/4 (Hose : Q'ty 1)



6 CAUTION FOR PIPING

◆1. Allowable back pressure for each hydraulic equipment of the crane

OUT port of control valveLess than 0.3Mpa {3kgf/cm²}

Drain port for hoistingLess than 0.3Mpa {3kgf/cm²}

Drain port for slewingLess than 0.3Mpa {3kgf/cm²}



CAUTION

★ If the back pressure exceeds the allowable level, trouble such as oil leakage may occur.

Therefore, choose the size of piping with the hardest operating conditions (working in winter season and back pressure when in maximum flow) in mind.

★ Return drain oil both for hoisting and for slewing to the oil tank by way of separate piping without joining oil returning from control valves.

★ Be sure to return draining oil both for hoisting and for slewing to the oil tank.

Otherwise, hydraulic motor will be damaged.

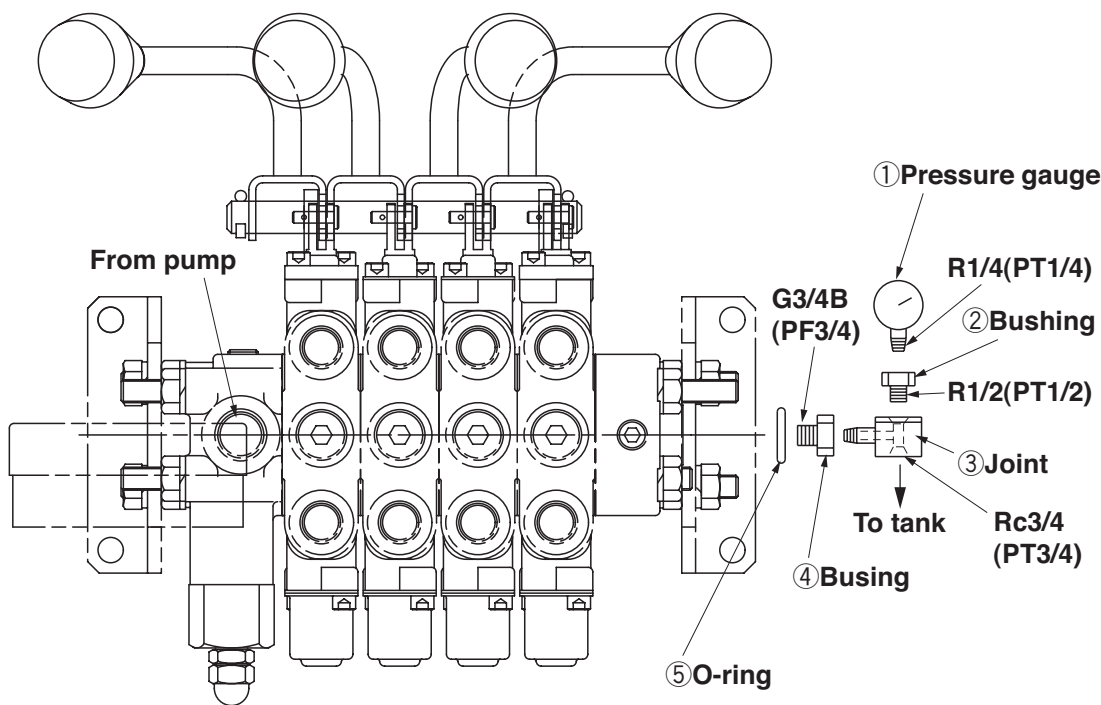
◆2. Size of piping

Refer to following table to choose size of piping.

Between pump and control valve	Pipe length	5m or less	5 m ~ 13 m	13 m ~ 25 m
	Pipe size	1/2" high-pressure hose or pipe φ 17.3mm × t2.3mm (10 A)	3/4" high-pressure hose or pipe φ 21.7mm × t2.8mm (15 A)	1" high-pressure hose or pipe φ 27.2mm × t2.8mm (20 A)
Between control valve and main body	Pipe length	3m or less		3 m ~ 8 m
	Pipe size	3/8" high-pressure hose or pipe φ 13.8mm × t2.2mm (8 A)		1/2" high-pressure hose or pipe φ 17.3mm × t2.3mm (10 A)
Between control valve and tank	Pipe length	25m or less		
	Pipe size	Rubber hose or pipe Inside diameter : φ 31.8mm		
Between winch (slewing) motor and tank	Pipe length	6m or less		6 m ~ 25 m
	Pipe size	Pipe φ 13.8 × t2.2 (8 A)		Pipe φ 17.3 × t2.3 (10 A)

7 HOW TO CHECK RECOMMENDED ALLOWABLE BACK PRESSURE IN CONTROL VALVE

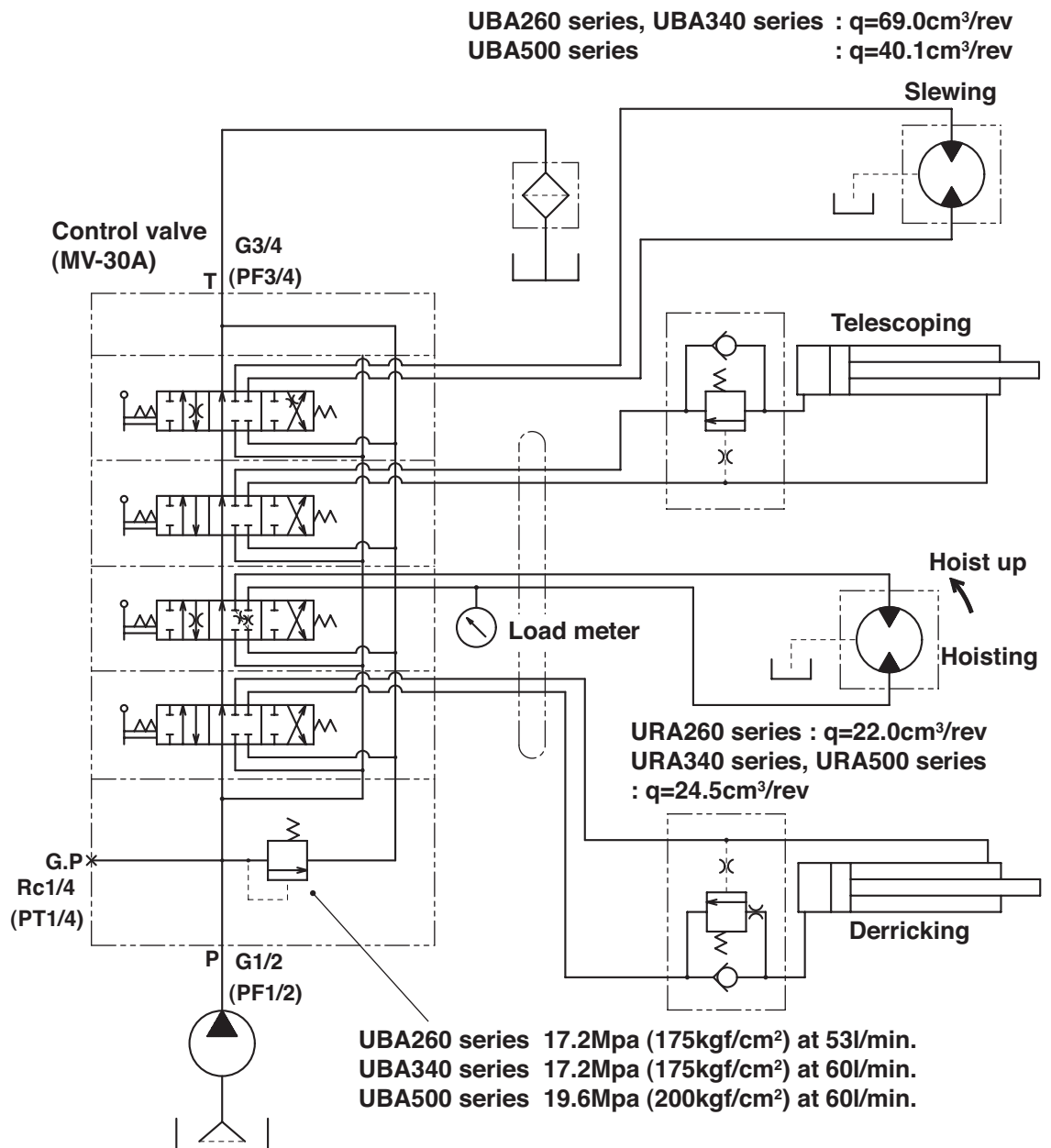
Attach a back pressure meter (pressure gauge) to the valve as illustrated below to check the back pressure.



Model	Piping components				
	①Pressure gauge	②Bushing	③Joint	④Bushing	⑤O-ring
URA500 series	GV50-173 (NAGANO MEARSURING INSTRUMENT CO.) Measurement range 2.5Mpa 1 unit	SBU04-020J 1pcs (728690402)	B-516159 1pcs (022765121)	A-514273 1pcs (022362120)	P18Hs90 1pcs (731291018)
URA340 series					
URA260 series					

★ Figures within brackets indicate part number and corresponding parts are available at this company.

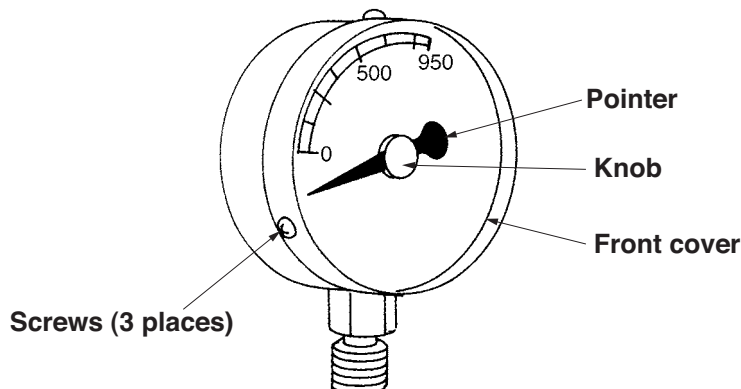
8 HYDRAULIC CIRCUIT OF CRANE



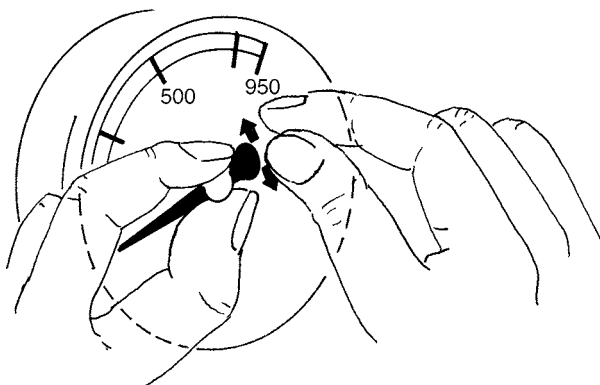
6. ZERO-POINT ADJUSTMENT OF LOAD METER

In case where the load meter does not read “O (zero)” when hoisting hook with no load, adjust it by following procedures illustrated below.

1. Unfasten the cross-head screws (3 places) to remove the front cover.



2. When allowing the pump to be rotated at a low speed (in case of adjusting type) and winding up the hook with no load, adjust the pointer to indicate 0 (zero) while the center knob is being fixed.



3. Attach the cover after the pointer has been adjusted.

CAUTION

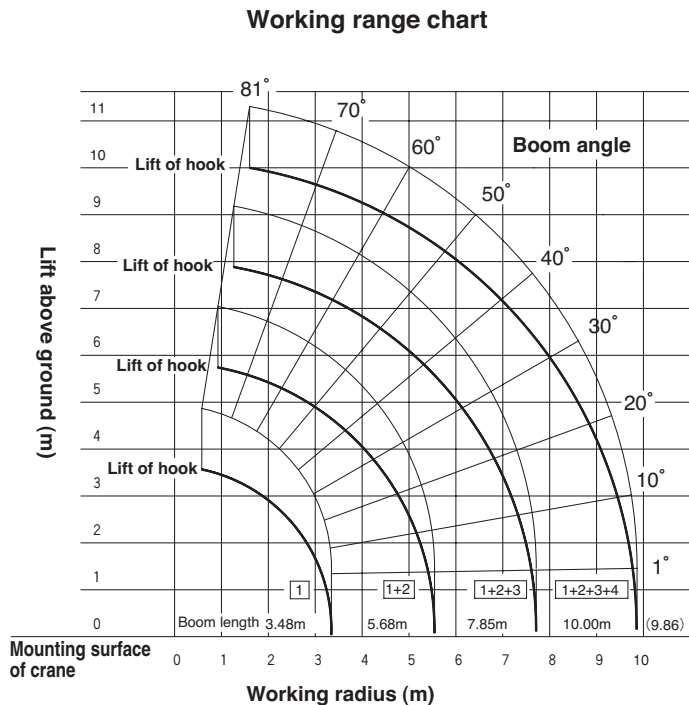
★ The load meter indicates the weight of a cargo only while it is being hoisted up, and the meter cannot be used when other operation (winding down, stop, and other) is carried out.

7. ATTACHMENT OF CHART OF RATED LOAD STICKERS

2 (two) stickers of “the chart of rated load” are provided and the one has been stuck to the crane before shipping.

Since the other one is attached as a sheet, stick it to a position near the crane control levers where an operator can refer to it easily.

The figure shows the chart of rated load for UBA344 as an example



Note: The chart illustrates for the crane working on no-load condition and shift due to deflection of the boom is not incorporated.

Boom-sections extended	1	1+2	1+2+3				
Working radius (m)	3.0	5.5	6.0	6.5	7.0	7.71	
Rated load (kg)	950		850	770	700	650	

Boom-sections extended	1+2+3+4							
Working radius (m)	4.25	4.5	5.0	6.0	7.0	8.0	9.0	9.86
Rated load (kg)	950	900	800	700	600	530	470	450

Note: 1. The chart shows hoisting capacity when the crane has been set up level and the data are based on actual working radius by incorporating shift due to deflection of the boom when loaded.
 2. The rated loads listed above are based on the strength of the crane and stability of the mounted vessel is not considered.
 Therefore, operate the crane by paying special attention to the stability of the vessel.

8. RECOMMENDED COMPONENTS

1 PUMP AND ELECTRIC MOTOR

Model				UBA500 series	UBA340 series	UBA260 series		
Pump	Engine drive	With acceleration	For C.C.W. rotation	Type	SGP2A44D2H9-L (740240084)	SGP1A36D2H9-L (740240087)	SGP1-32D2H9-L (740240097)	
				Displacement cm³/rev	44.0 (rear port)	36.6 (rear port)	33.2 (rear port)	
			For C.W. rotation	Type	SGP2A44D2H9-R (740240085)	SGP1A36D2H9-R (740240088)	SGP1A32D2H9-R (740240090)	
				Displacement cm³/rev	44.7 (rear port)	36.6 (rear port)	33.2 (rear port)	
			Maximum speed: min ⁻¹ (rpm)			1400 (1400)	1700 (1700)	
			Required output: kW [ps]			21.8 {30}	19.1 {26}	16.9 {23}
		Without acceleration	For C.C.W. rotation	Type	SGP1-27D2H9-L (740240098)		SGP1-23D2H9-L (740240099)	
				Displacement cm³/rev	27.8 (rear port)		23.7 (rear port)	
			For C.W. rotation	Type	SGP1A27D2H9-R (740240092)		SGP1A23D2H9-R (740240093)	
				Displacement cm³/rev	27.8 (rear port)		23.7 (rear port)	
			Maximum speed: min ⁻¹ (rpm)			1500 (1500)		
			Required output: kW [ps]			14.6 {20}	12.7 {18}	11.2 {16}
	Electric motor drive	50Hz area	For C.C.W. rotation	Type	SGP1-23D2H9-L (740240099)		SGP1-20D2H9-L (740240101)	
				Displacement cm³/rev	23.7 (rear port)		20.0 (rear port)	
			For C.W. rotation	Type	SGP1A23D2H9-R (740240093)		SGP1A20D2H9-R (740240094)	
				Displacement cm³/rev	23.7 (rear port)		20.4 (rear port)	
		60Hz area	For C.C.W. rotation	Type	SGP1-20D2H9-L (740240101)		SGP1A18D2H9-L (740240095)	
				Displacement cm³/rev	20.0 (rear port)		18.3 (rear port)	
			For C.W. rotation	Type	SGP1A20D2H9-R (740240094)		SGP1A18D2H9-R (740240096)	
				Displacement cm³/rev	20.4 (rear port)		18.3 (rear port)	
Electric motor	Sealed outer-fan type AC200V, 4-pole	MITSUBISHI ELECTRIC CORPORATION	SF-JR	15kw		11kw		
		HITACHI, LTD.	TFD-KK					
		FUJI ELECTRIC CO., LTD.	MLA					
		TOSHIBA CORPORATION	FBK21(FBK8)					

2 [OPTIONAL] HYDRAULIC EQUIPMENT

Crane type		UBA260 series	UBA340 series/UBA500 series
Hydraulic equipment model		SHU03079-1 (740290033)	SHU03079-2 (740290034)
Output of electric motor		11kW	15kW
Type of electric motor		Sealed outer-fan type, 4-pole, AC200V/200~220V, 50Hz/60Hz	
Rated flow l/min	50Hz	24	32
	60Hz	29	38
Pump		SGP1A18D2H9-L (740240095)	SGP1-23D2H9-L (740240099)
Maximum operating pressure MPa {kgf/cm ² }		20.6 {210}	
Hydraulic oil		For general use: UNIC hydro #46 For use in cold district: UNIC hydro #32	
Starting system of electric motor		Star-Delta starter	
Weight (without hydraulic oil) kg		310	330

★ Figures within brackets indicate part number and the parts are available at this company.

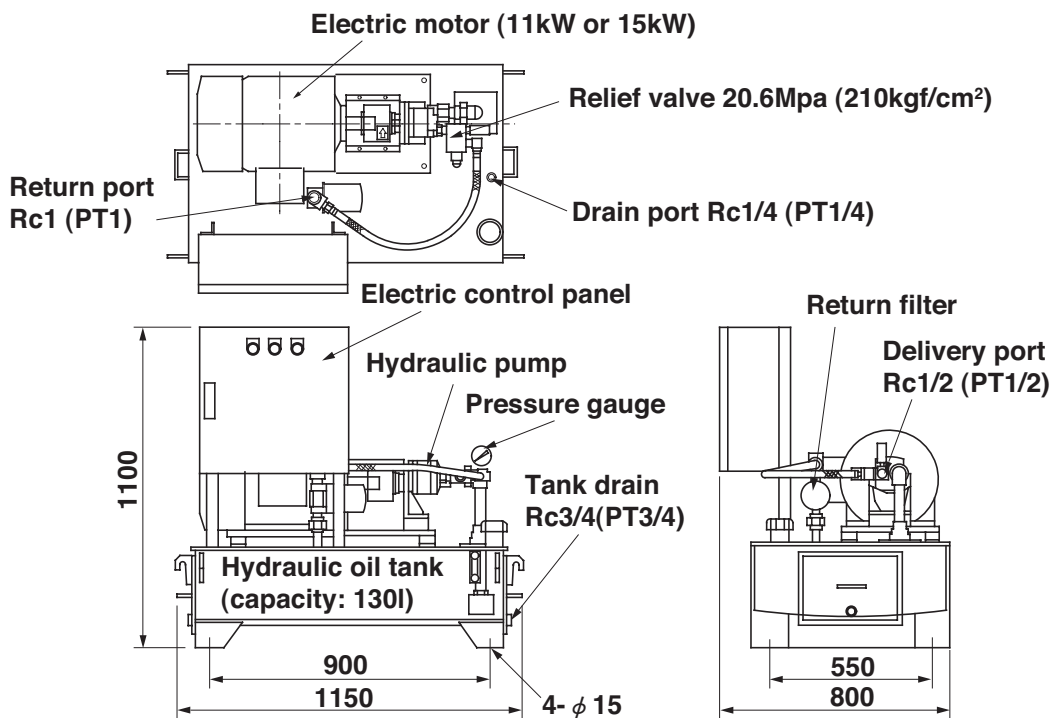
★ With rust-proof painting, moss green color (standard).



CAUTION

★ **Install the equipment where rainwater and/or seawater will not be splashed on them.**

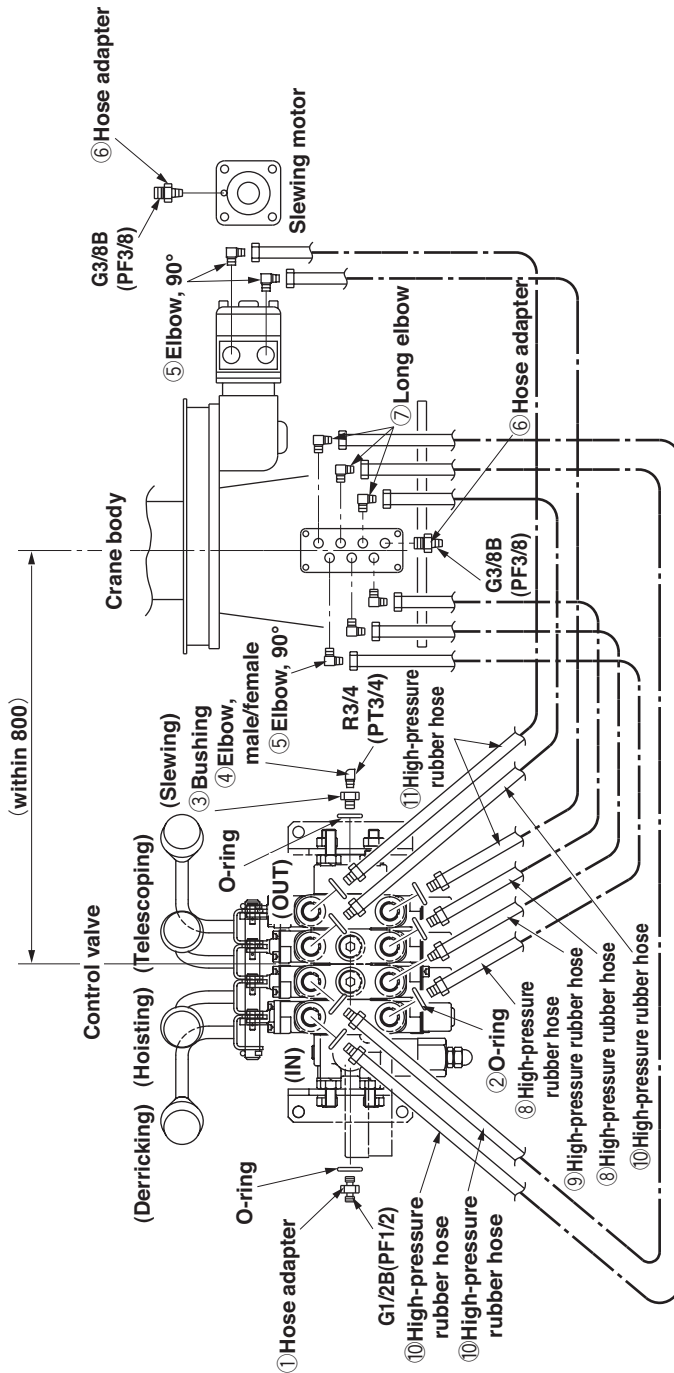
RECOMMENDED COMPONENTS



CAUTION

- ★ Check that the power source is AC200V/200~220V, 50/60Hz, 3-phase.
- ★ In order to prevent an electric shock, check that grounding of class 3 has reliably been provided.
- ★ Choose electric wire size of 14mm² for 11kW supply, and 22mm² for 15kW supply.

3 [OPTIONAL] COMPONENTS FOR PIPING BETWEEN CONTROL VALVE AND CRANE BODY



Piping components (Assy part number 099864000) Weight: Approx. 6kg										
Crane type	Control valve side				Crane body side			High-tension rubber hose		
	① Hose adapter (with O-ring)	② O-ring	③ Bushing (with O-ring)	④ Elbow, male/female	⑤ Elbow, 90°	⑥ Hose adapter	⑦ Longelbow	⑧ (Raise · Retract)	⑨ (Wind up)	⑩ (Lower · Wind down · Extend)
UBA500 series	G1/2B × G1/2B (H90) 731191014	P-14 (H90) 731191014	Rc3/4 × G3/4B 770290167	R3/4 770290162	R3/8 × G3/8B 770290161	R1/4 × G3/8B 770290168	G3/8B × R3/8 770250056	38 × 140φ 770113134	38 × 135φ 770113135	38 × 155φ 770113136
UBA340 series	G1/2B 770290160	(1 pc)	(1 pc)	(1 pc)	(5 pc)	(2 pc)	(3 pc)	06NSF -06MUF (2 pc)	06NSF -06MTF (1 pc)	06NSF -06MUF (3 pc)
UBA260 series	(1 pc)	(7 pc)	(1 pc)	(1 pc)	(5 pc)	(2 pc)	(3 pc)	(2 pc)	(1 pc)	(2 pc)

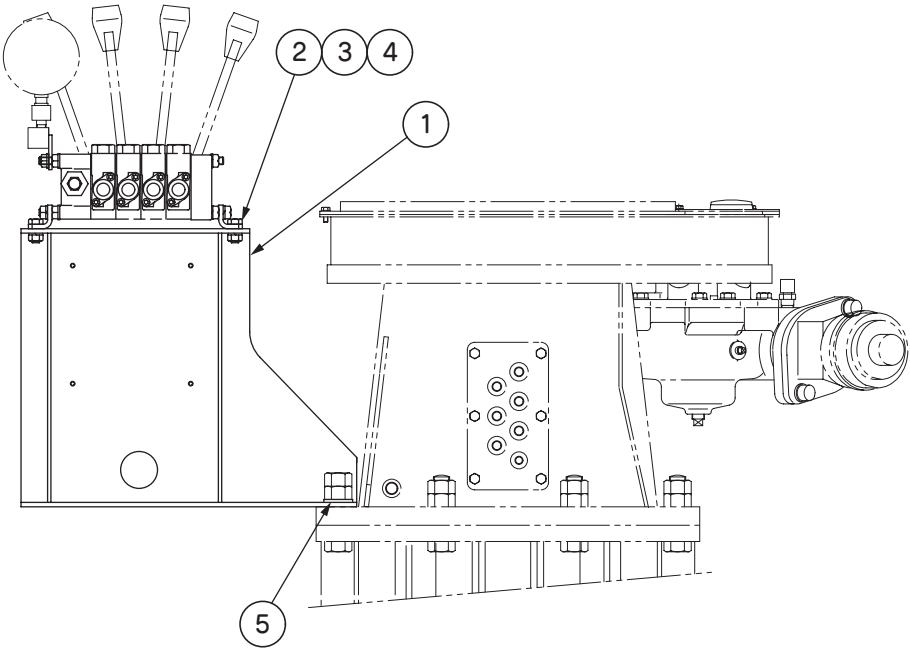
★ Decide mounting position of the control valves based on length of high-tension rubber hoses.

★ The piping joints and fitting hardware for the high-tension rubber hoses are made of stainless steel.

RECOMMENDED COMPONENTS

4 [OPTIONAL] MOUNTING BASE FOR CONTROL VALVES

◆ Use mounting bolts on the crane body to attach the mounting base (bracket) for control valves in common with the body.



Part list

Control valve mounting assembly: 099871000 Weight: 16kg

Item	Part name	Part number	Q'ty
1	Bracket	099871020	1
2	Bolt	711110D25	4
3	Nut	72111110D	4
4	Spring washer	722211100	4
5	Plain washer	722112240	2

5 [OPTIONAL] INSTALLATION OF RADIO/REMOTE CONTROLLER

Application

- Radio remote controller using weak radio wave: RC-500F-33R
- Cable remote controller: RC-30S

◆1. Mounting procedures

A figure in the circle in the illustrations shows the component unique to radio and cable remote controllers.



CAUTION

- ★ Although the remote control valves and the remote control box have been designed with both water-proof and rust-proof in mind, it is recommended that they set up in the cabin as much as possible.

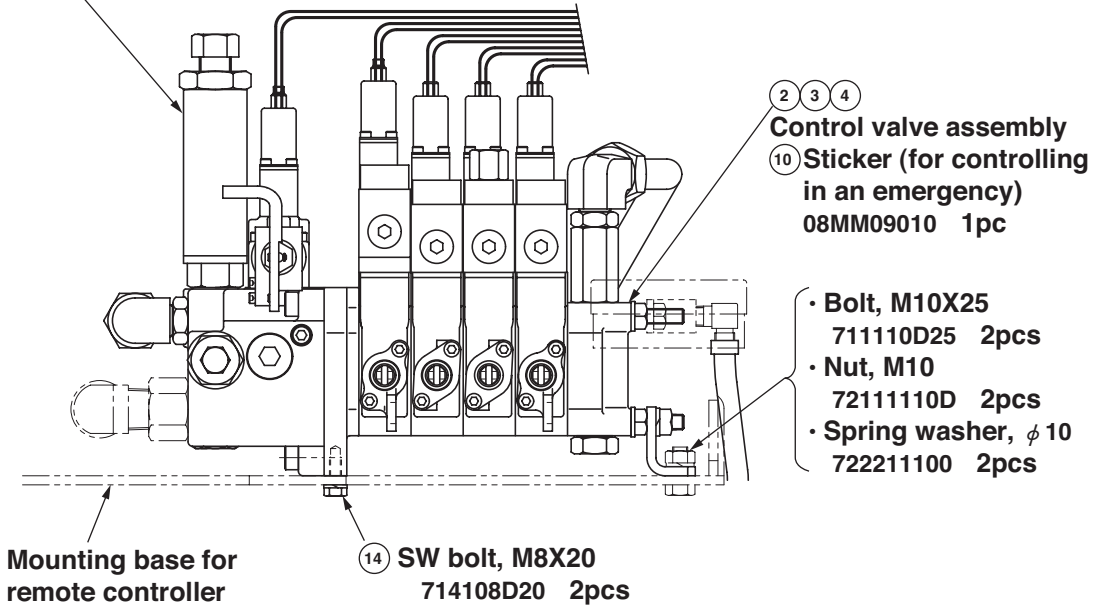
When they have been set up outdoors for inevitable reasons and the crane is to be left as it is for a long period of time, it is recommended to cover them to maintain normal functions.

- ★ In case where radio or cable remote controller is to be installed (when replacing it to a crane in particular), it is recommended to replace hydraulic oil.

RECOMMENDED COMPONENTS

(1) Fitting remote control valve

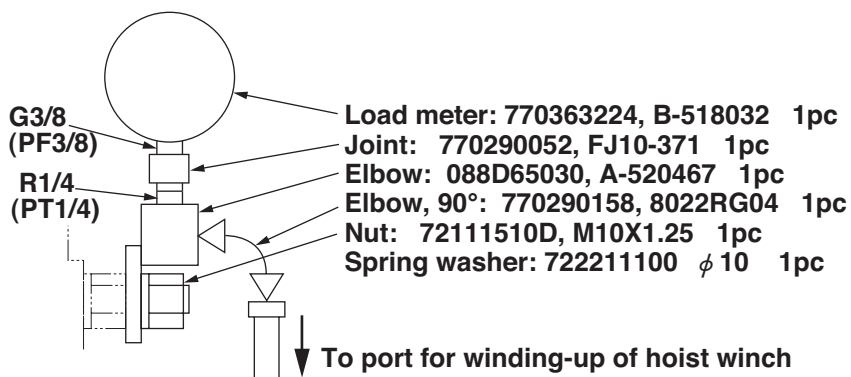
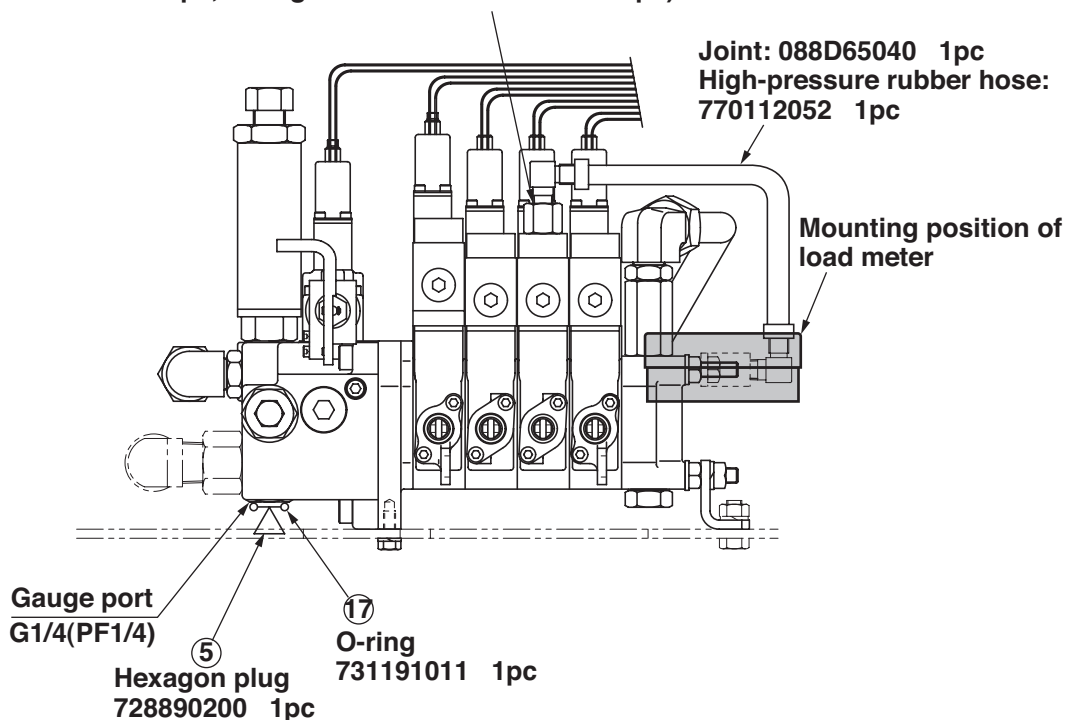
Replace the high-tension filter (line filter) element at regular intervals of once a year.



RECOMMENDED COMPONENTS

(2) Fitting load meter and piping joints to remote control valves

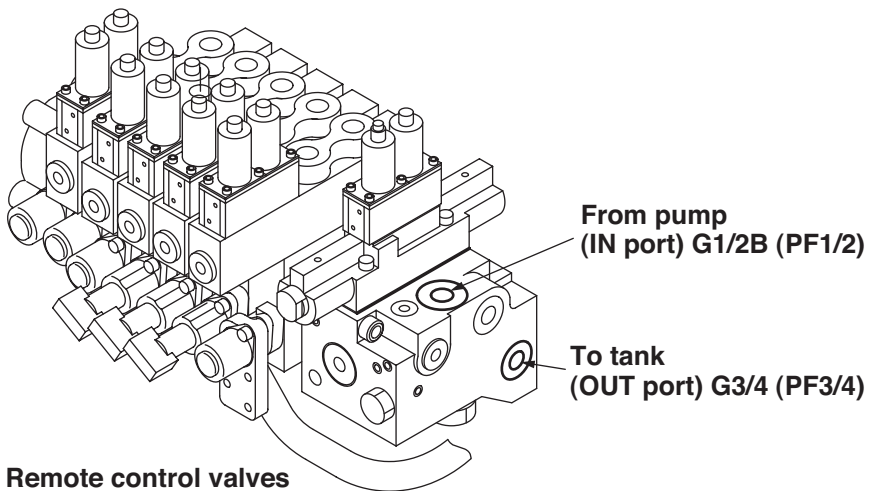
Add the joint only for winding-up by hoist winch as the hose fitting hardware is different. (Male/female adapter: 770290154 1pc, O-ring: P-14 Hs90 731191014 1pc)



Mounting of load meter in detail

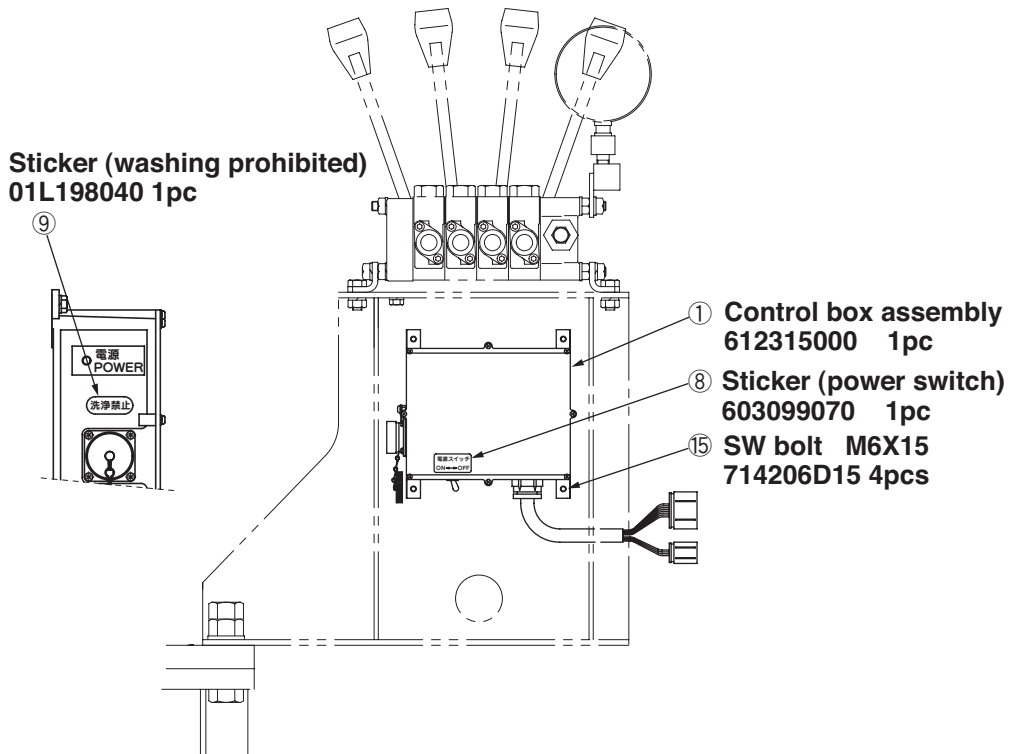
RECOMMENDED COMPONENTS

(3) Connecting the pipes among hydraulic pump, remote control valves, and crane body



- Refer to page 8-4 for piping components and connection between remote control valves and crane body.
- Refer to pages 5-2, 5-3, and 5-8 for piping of hydraulic pump and remote control valve, and oil tank.

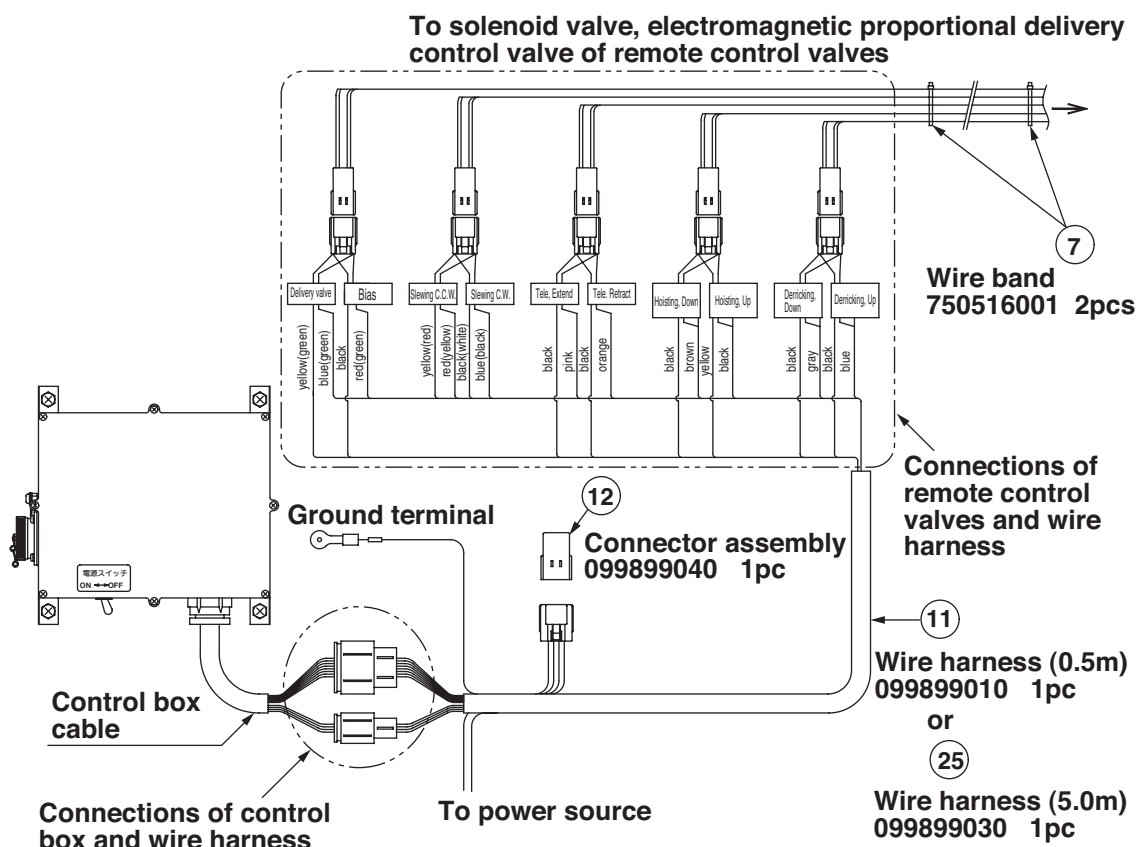
(4) Fitting control box to mounting base for remote control valves



(5) Wiring between remote control valves and control box for remote control with wire harness (cable)

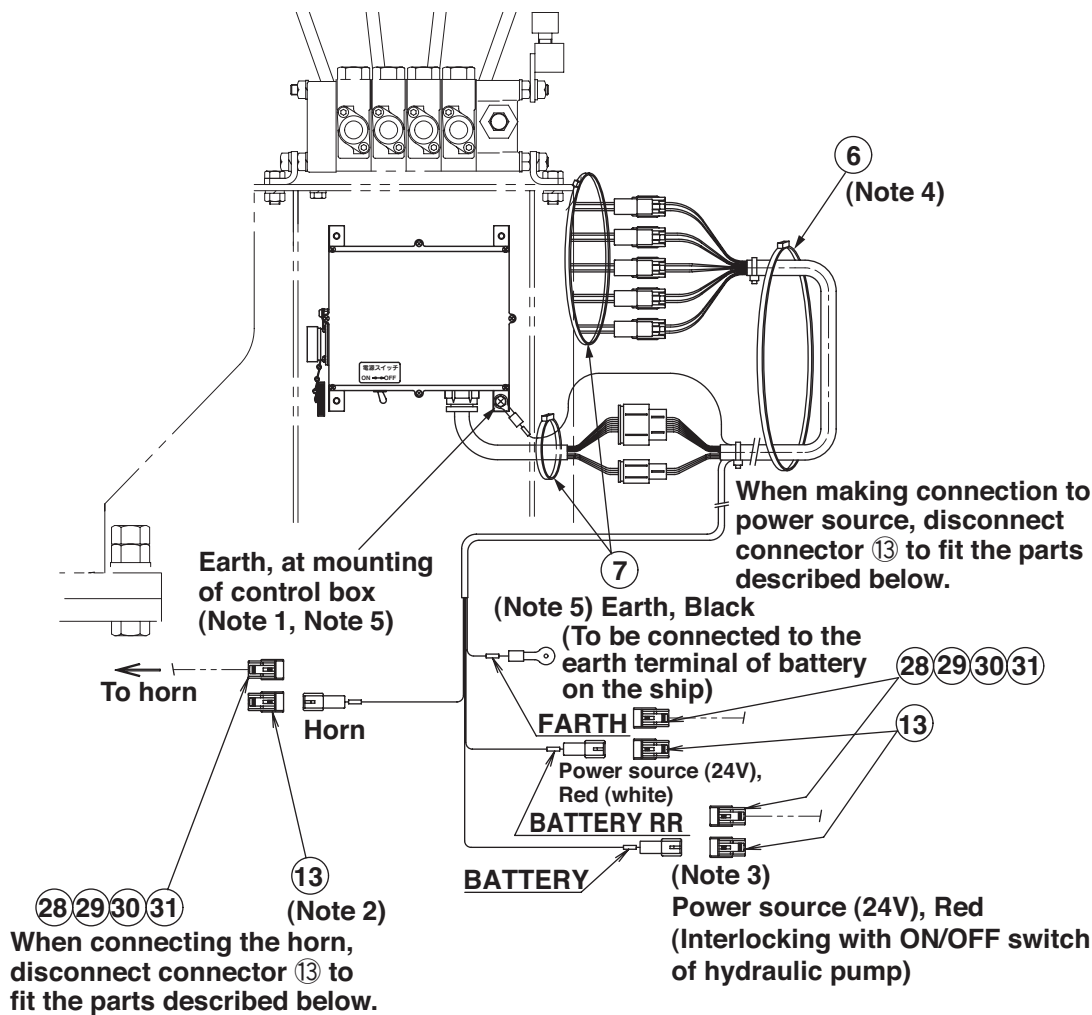
⚠ CAUTION

- ★ Refer carefully to the electric wiring diagram (on page 8-17 before carrying out wiring.
- ★ Since the radio/remote controller is to be powered by DC24V, use a suitable converter to change it to the correct electric power before connection if the power is to be supplied from commercial AC power source.
- ★ When setting up the remote control valves away from the control box, replace the wire harness with that for 5.0m specifications (item 25) for wiring.
Do not extend the wires by alteration at an operation site of the crane.



RECOMMENDED COMPONENTS

(6) Fit the earth terminal and make connection to the power source



⚠ POINTS TO NOTICE WHEN CONNECTING WIRES

- Note 1.** Polish the earth point with a grinder to connect the earth terminal to the bared metal surface.
Apply rust preventive coating over the grinded surface after the earth terminal has been connected.
- Note 2.** If the horn will not be used, fit the attached connector ⑬ to take water-proof measures against the wiring ends.
- Note 3.** The red wire of supplying power (24V) is to be used to interlock with the switch turning ON/OFF hydraulic power source on the crane.
Use the wire of red/white for supplying power (24V) if it will not be interlocked with the switch.
- Note 4.** Tie up the surplus wires to fix them such as to the bracket for mounting remote control valves.
- Note 5.** When an earth cannot be established in case such as on the tank vessel, fit insulation material to the mounting area of control box as it has been grounded to the body.
In addition, connect the earth terminal (in Note 1) to the earth terminal of battery on the ship.
Connection of earth is also applied as above in case of a steel vessel.

RECOMMENDED COMPONENTS

◆2. Part list for radio/remote controller

UBA260 series remote controller mounting assembly:Device number: 09E098000

UBA340 series remote controller mounting assembly:Device number: 099898000

UBA500 series remote controller mounting assembly:Device number: 096C98000

Accessories for cable remote controller (10m cable), for radio remote controller (RC-33R-A), and for radio remote controller (RC-100T-A) are different according to customer requirements.

Confirm each requirement for accessories.

Part list			Q'ty			Shipping
Item	Part name	Part number	UBA260	UBA340	UBA500	
1	Control box ass'y	612315000	1	1	1	Shipped by unit ass'y
2	Control valve ass'y	605671000	1			Shipped by unit ass'y in chosen part
3	Control valve ass'y	605639000		1		
4	Control valve ass'y	605672000			1	
5	Hexagon plug	728890200	1	1	1	Fitted to ②,③,④
6	Wire band	750516004	1	1	1	Shipped by unit ass'y
7	Wire band	750516001	4	4	4	
8	Sticker (power switch)	603099070	1	1	1	
9	Sticker (washing prohibited)	01L198040	1	1	1	
10	Sticker (operation in an emergency)	08MM09010	1	1	1	Fitted to ②,③,④
11	Wire harness (0.5m)	099899010	1	1	1	Shipped by unit part after assembly
12	Connector ass'y	099899040	1	1	1	
13	Connector ass'y	619227000	3	3	3	
14	SW bolt	714108D20	2	2	2	Shipped by unit ass'y
15	SW bolt	714206D15	4	4	4	
16	SW bolt	714205D12	4	4	4	For mounting receiver
17	O-ring	731191011	1	1	1	Fitted to ②,③,④
18	Accessory, cable remote controller (10m)	604171000	1	1	1	Shipped by unit ass'y in chosen part
19	Accessory, radio remote controller	61RF02000	1	1	1	
	Options					
25	Wire harness (5m)	099899030	1	1	1	Shipped by unit part
28	Plug housing	750528003	3	3	3	
29	Double lock plate	750528004	3	3	3	
30	Receptacle contact	750501101	3	3	3	
31	Rubber plug	750501102	3	3	3	

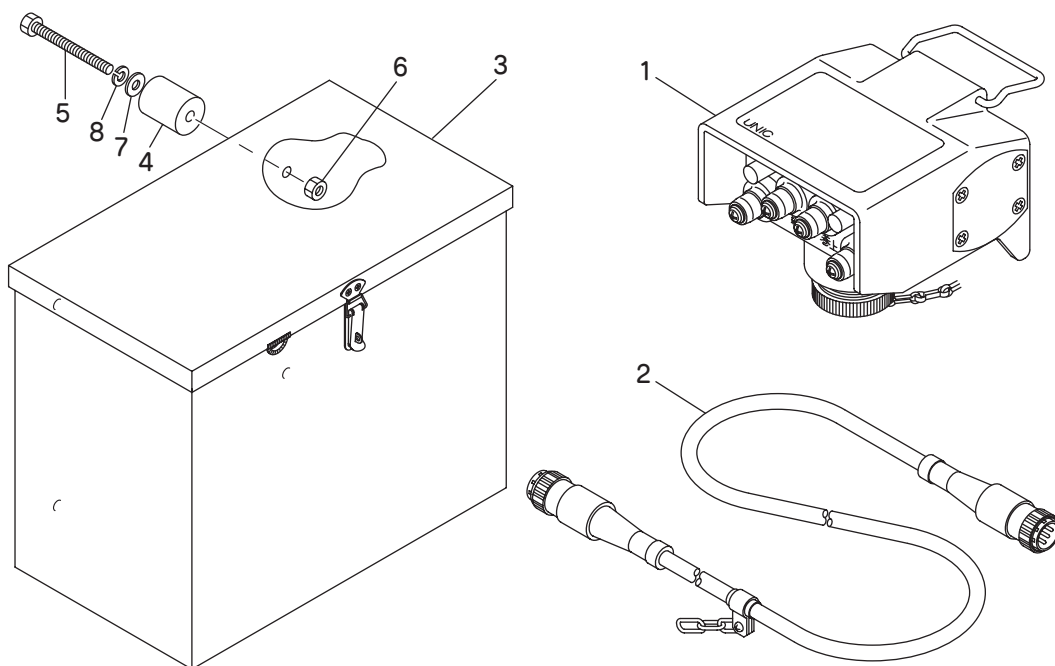


CAUTION

★ **Carefully check the parts being packed and confirm each item number described on the part list and the item number shown in the sections illustrating mounting procedures to carry out assembly.**

RECOMMENDED COMPONENTS

◆3. Part list of accessory for cable remote controller(RC-30S)



Item	Part number	Part name	Q'ty	Remarks
1~8	6041 71000	Accessories for cable remote controller	1set	
1	6031 98000	Remote controller ass'y	1	RC-30S-6
2	6031 04000	Remote controller cable	1	10m long
3	01L1 99060	Storing container	1	
4	6040 70010	Spacer	4	
5	7114 08080	Bolt	4	M8×80l
6	7211 11080	Nut	4	
7	7221 12080	Plain washer	4	
8	7222 11080	Spring washer	4	

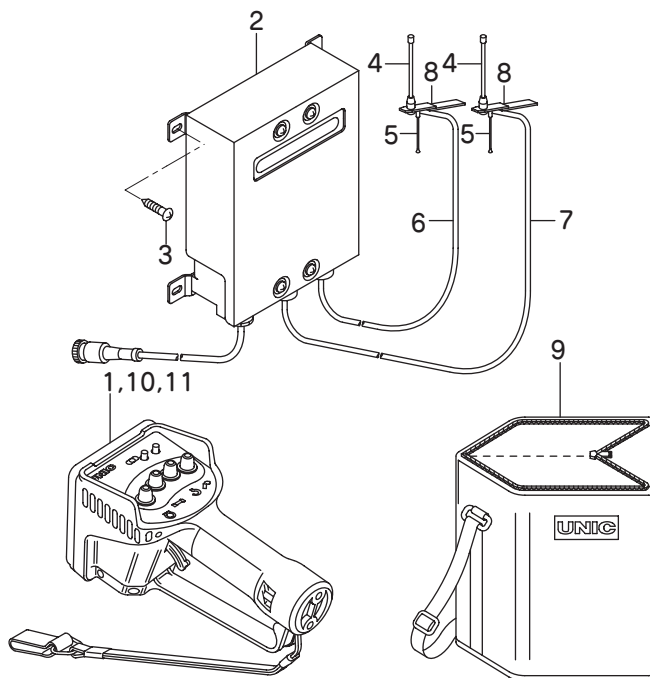


CAUTION

- ★ Carefully check the parts being packed and place the storing container of item ③ in the cabin.
- ★ After crane operation, be sure to store the remote controller ass'y ① and the remote controller cable ② in the storing container. Otherwise, it may cause troubles during operation as moisture may enter the electric system for which must be very careful.

RECOMMENDED COMPONENTS

◆4. Part list of accessory for cable remote controller (RC-500F-33R)



Item	Part number	Part name	Q'ty	Remarks
1~11	61RF 02000	Accessories for radio remote controller	1set	
1	61RF 01T00	Transmitter	1	
2	61RF 02R00	Receiver	1	
3	7601 10072	Wood screw	1	M5 × 12l
4	61RF 02R10	Flexible antenna	1	
5	61RF 02R20	Earth antenna	1	
6	61RR 00A10	Antenna cable	1	ℓ = 4m
7	6030 93060	Antenna cable	1	ℓ = 9m
8	6030 93800	Antenna fitting bracket	1	
9	6103 01010	Bag for receiver	1	
10	61RF 01020	Cover	1	
11	61RF 01030	Plug	1	

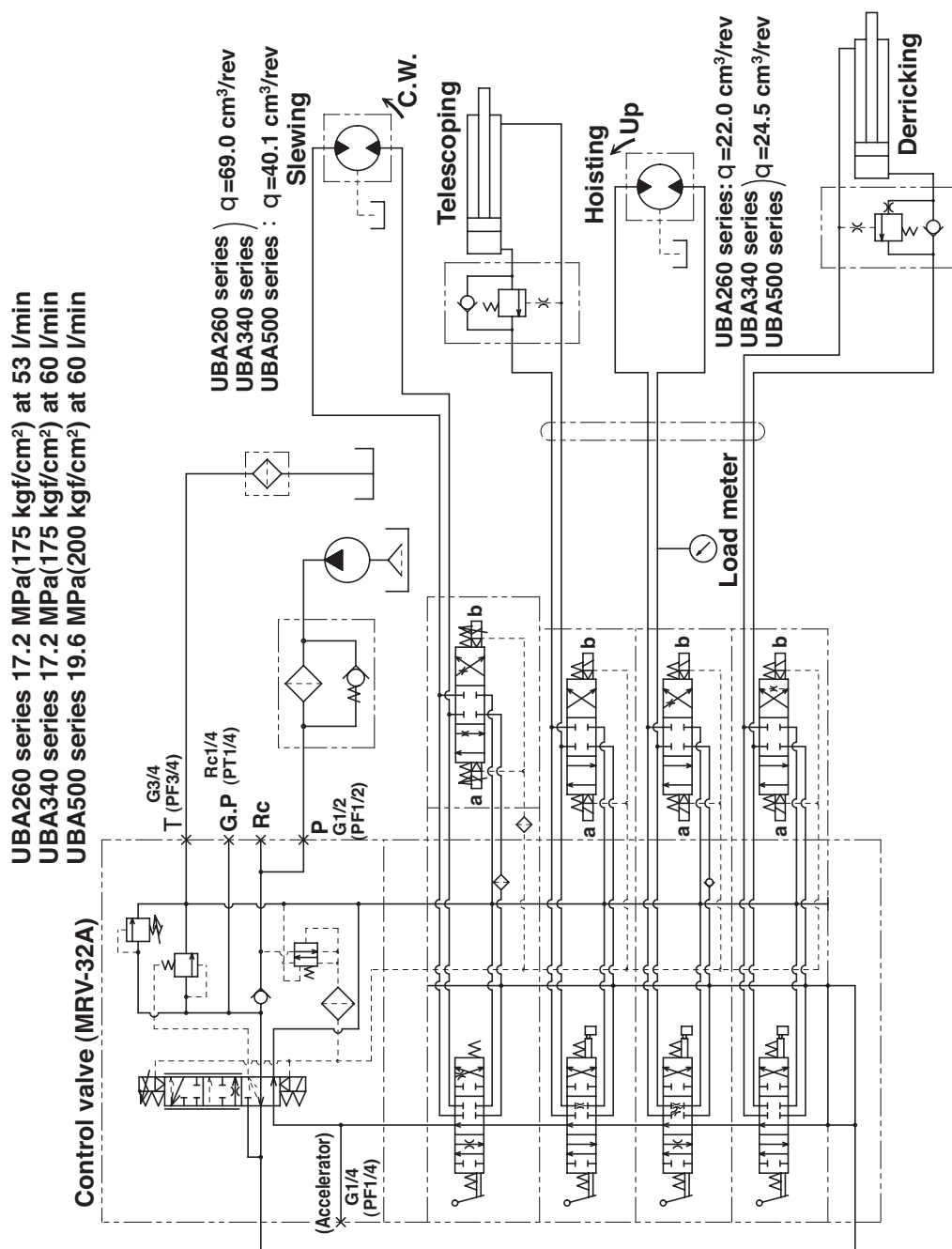


CAUTION

★ Carefully check the parts being packed and mount the receiver in item ② and the antenna near the control box.

★ After crane operation, put the transmitter ① in the bag for receiver ⑨ to store it in the cabin.

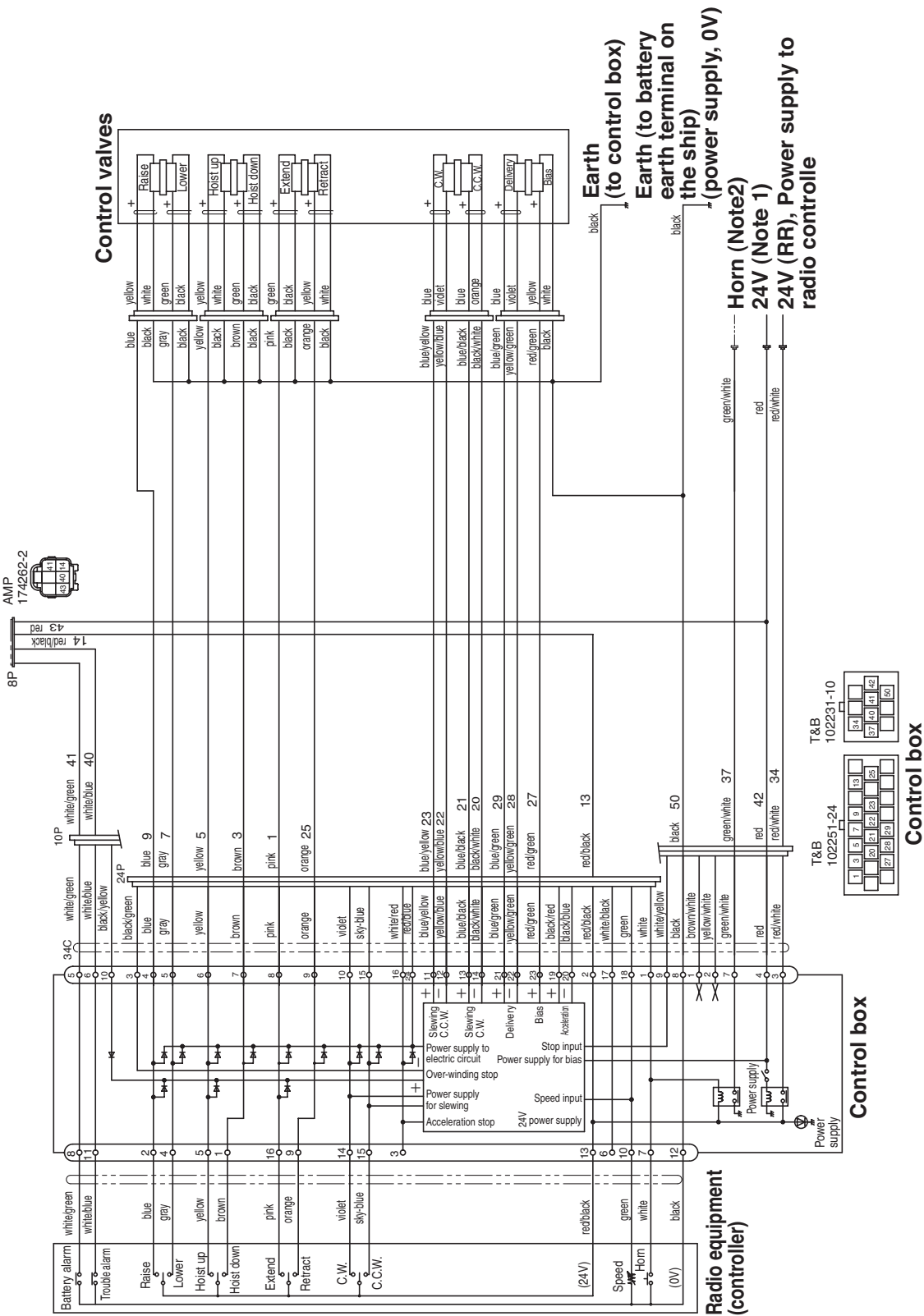
◆5. Hydraulic circuit diagram for radio/remote controller



★ If foreign substances are mixed in the hydraulic oil, it gives a bad influence on the performance and the life of hydraulic equipment and machine failure may result.

RECOMMENDED COMPONENTS

◆6. Electric wiring diagram for radio/remote controller



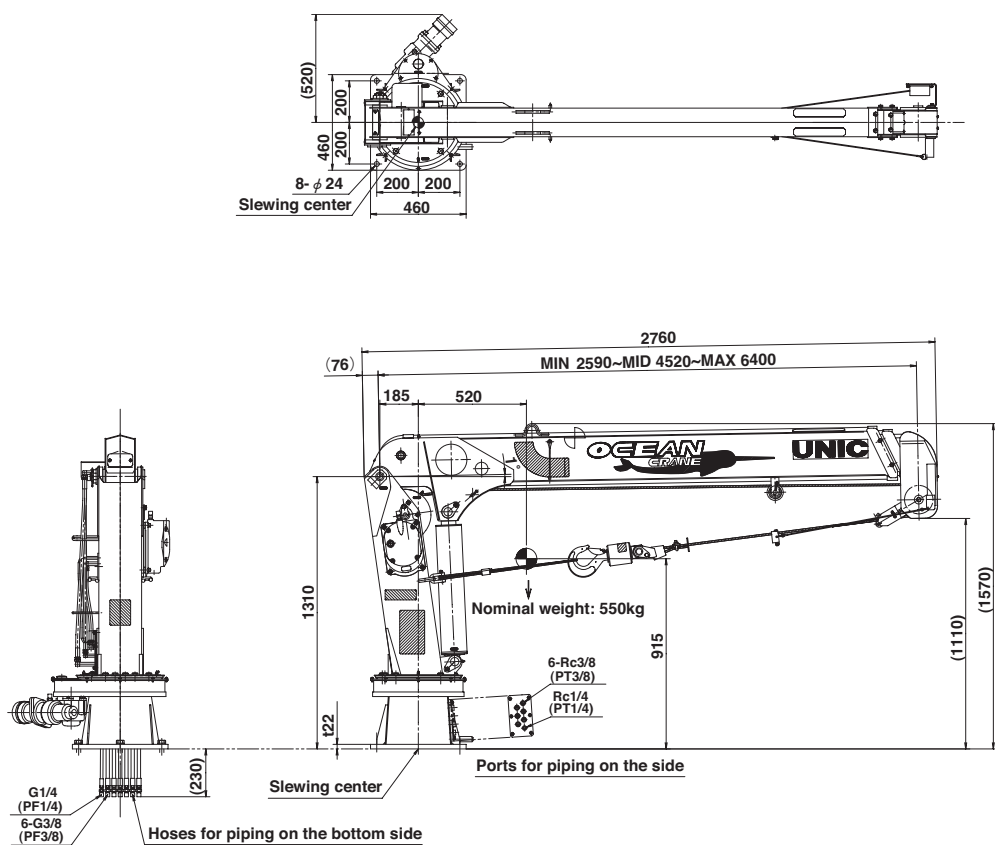


CAUTION

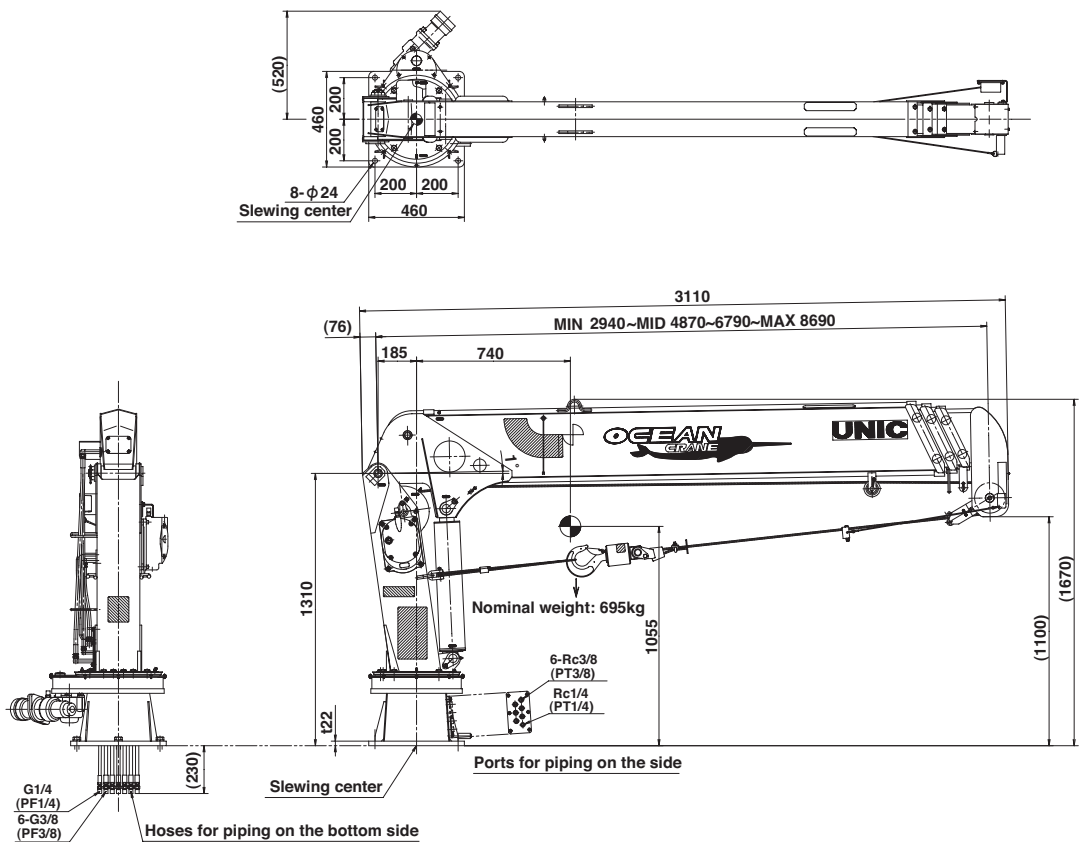
- ★ Connect the power supply (24V) so that interlocking with the ON/OFF switch for hydraulic power source on the crane can be achieved.
When no interlocking is necessary, connect the power to the same power supply (24V) as that of 24V (RR) for radio controller.
- ★ If the horn will not be used, fit the water-proof connector to the ends of wire harness for water-proof measures.

9. OVERALL VIEW OF CRANES

1 UBA263 (3-SECTION BOOM)

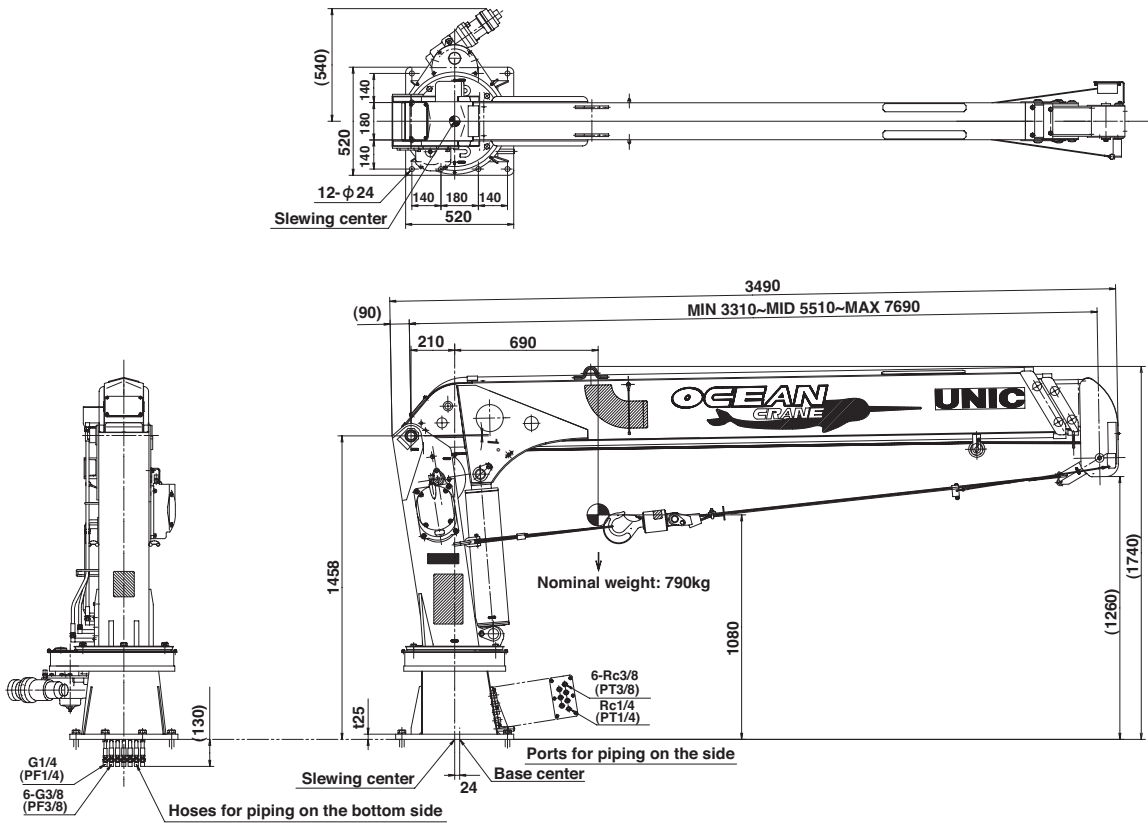


2 UBA264 (4-SECTION BOOM)

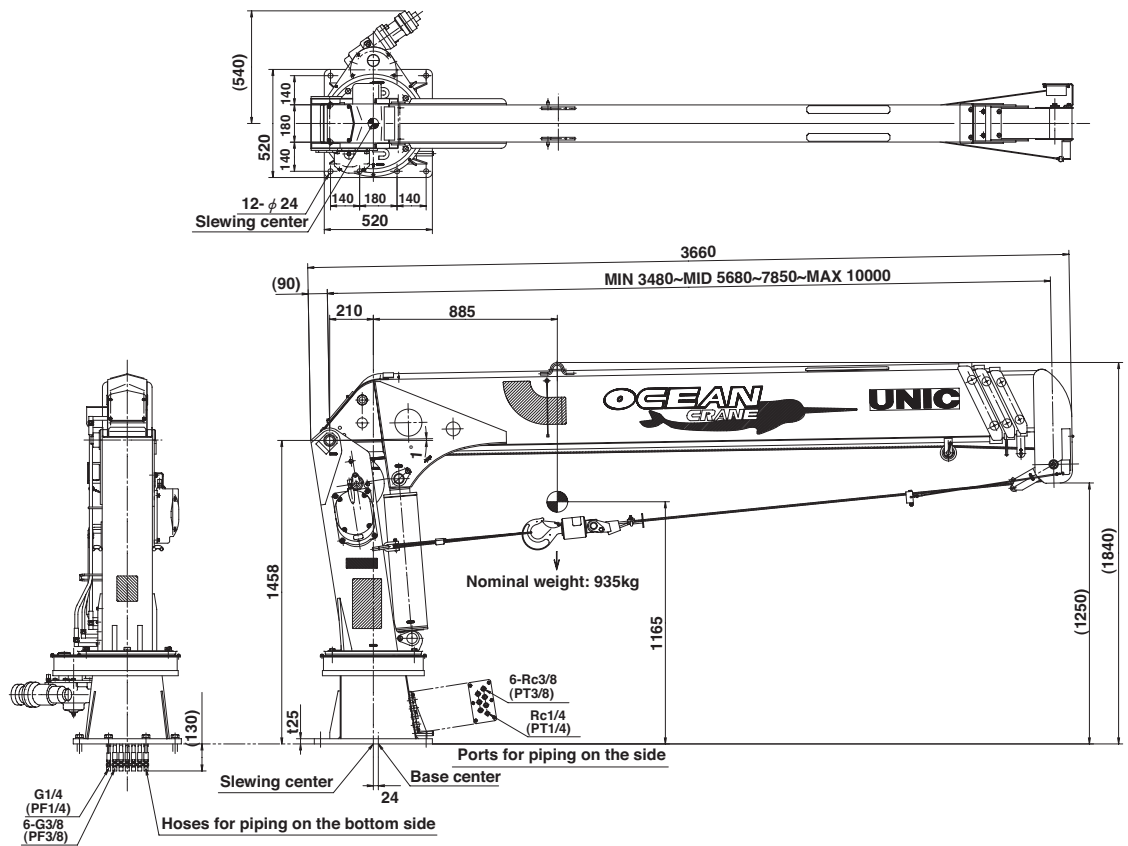


OVERALL VIEW OF CRANES

3 UBA343 (3-SECTION BOOM)

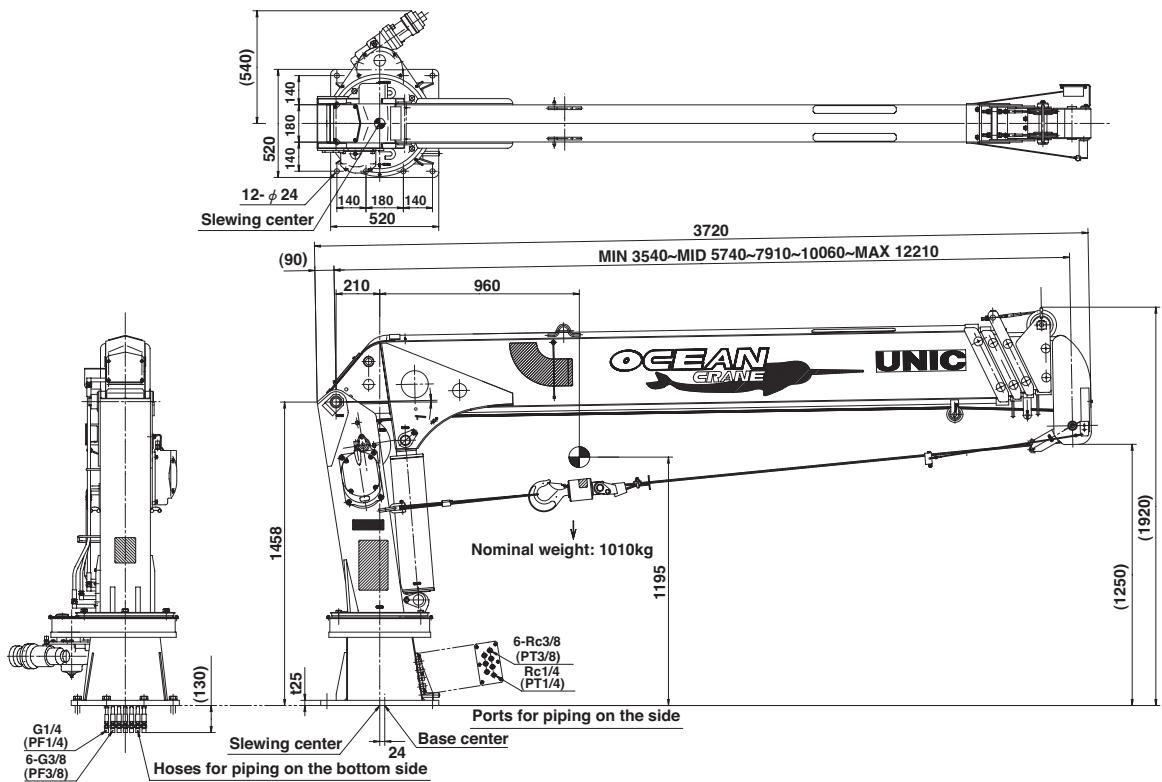


4 UBA344 (4-SECTION BOOM)

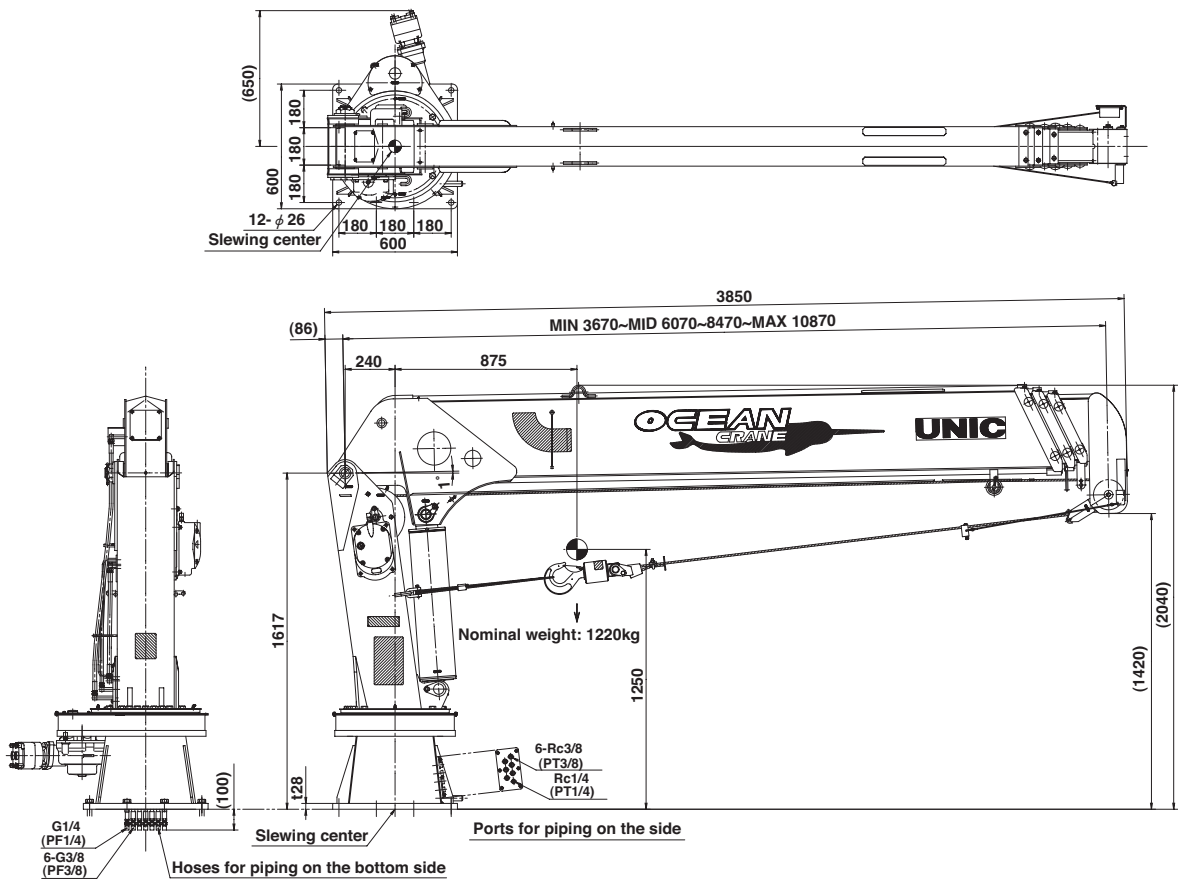


OVERALL VIEW OF CRANES

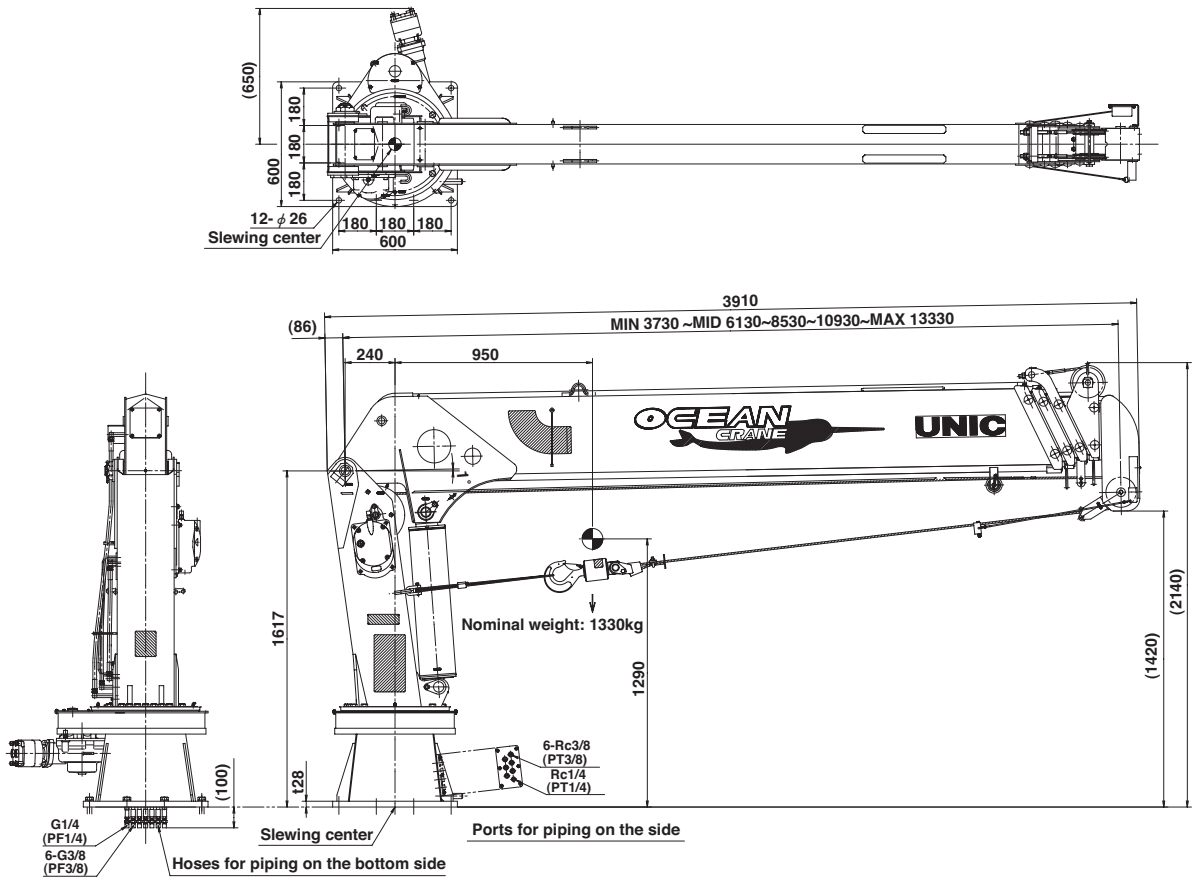
5 UBA345 (5-SECTION BOOM)



7 UBA504 (4-SECTION BOOM)



8 UBA505 (5-SECTION BOOM)



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