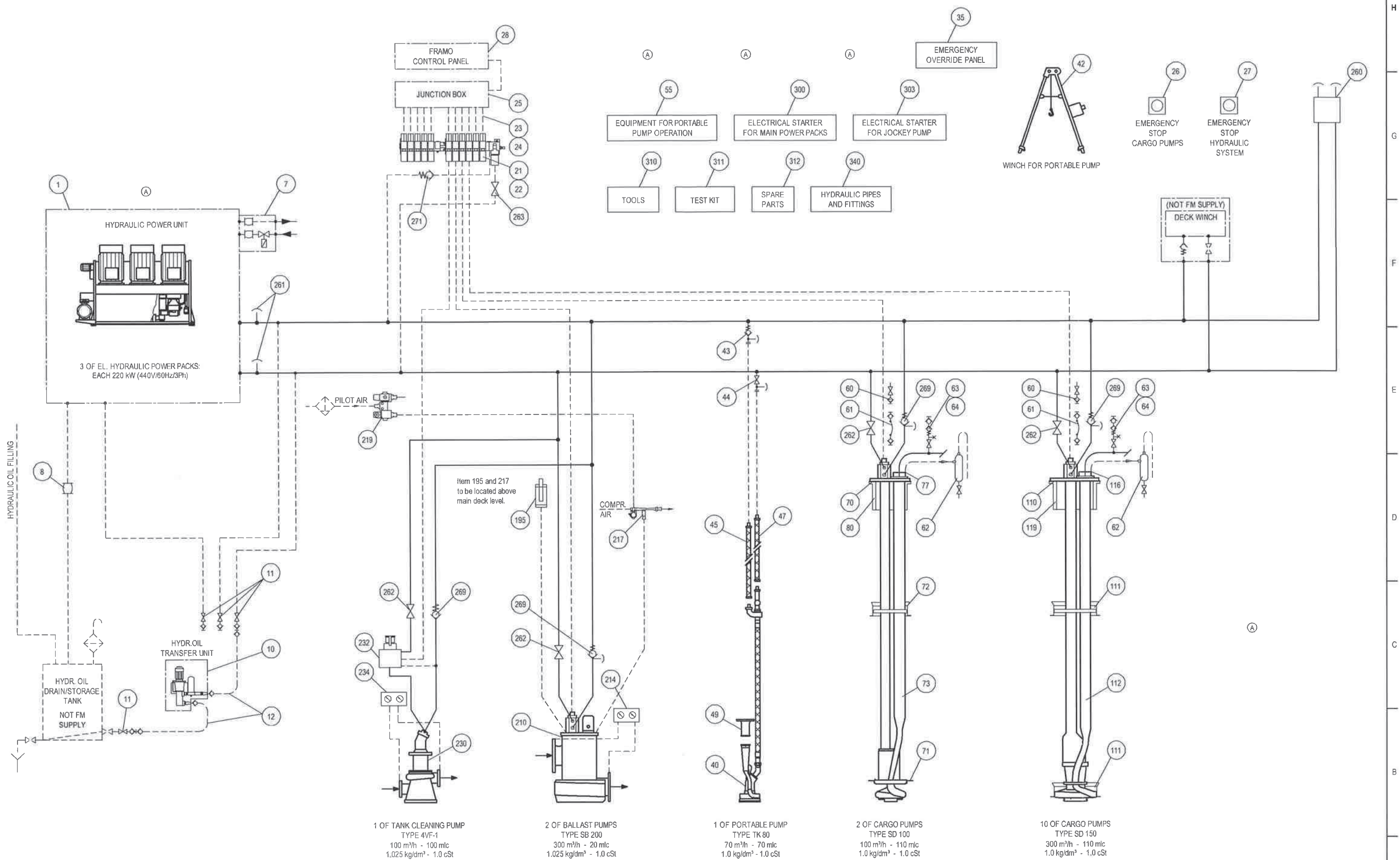




		Status	Sign.	Date	
		Consult	K-E	05Apr06	
		Drawn by	JEOE	06Apr06	
		Checked	K-E	06Apr06	
A	Revised	JEOE/19Apr06	Prod. rel.		
R	Description	5 gtu./Date	Prod. rel.	K-E	06Apr06

	Frank Mehn AS	This drawing is our property it is not to be re-used, copied or published without our written consent and to be replaced in any way
GENERAL ARRANGEMENT		Replaced by:
		0287-1842-1
		Replaced by:



**FRAMO SPECIFICATION
ORDER NOS.
613662-65/1, 613997-99/1, 614000/1**

No. 0240-0630-4
Date/sign.: 10Dec04/ØH
Page: 2
Rev.: D/26Apr06/ØH

Chapter 1 FRAMO SUPPLY

General arrangement drawing no.: 0287-1640-1

<u>Item</u>	<u>Qty.</u>	<u>ID no.</u>	<u>Description/Title</u>	<u>Drawing no.</u>	<u>Last revision</u>
<u>Power pack unit w / equipment</u>					
1	1	A50170-ABS	Hydraulic power unit	0345-1912-3 A50170-ABS	A
7	1	A53358-ABS	Cooling water accessories - Connections acc. to JIS standard - 220V power supply for the cw valve	0300-1686-2 A53358-ABS	
<u>Transfer unit w / equipment</u>					
10	1	A26288	Oil filling / transfer unit	0344-1021-2	
11	4	3015799	Snap on coupling	0247-0849-3	
12	2	A676	Flexible hose w/snap-on coupling	0247-0781-2	
<u>Control system w / equipment</u>					
21	1	A53108	Remote control valve assembly, 8 valves	0125-0956-1	
22	1	A53109	Remote control valve assembly, 9 valves	0125-0956-1	
23	17	A38496	Connectors/cables for remote control valve assembly, L = 3 m	0381-2169-3	
25	1	A51169	Junction box for remote control valve ass. Installation drawing Wiring diagram	0381-2607-3 0125-0574-3 0222-3335-3	
26	3	A19008	Emergency stop (Cargo pumps)	0381-0782-3	C
27	1	A51104	Emergency stop (Hydraulic system)	0381-0782-3	
28	1	A51166	Framo control panel	0381-3320-2	
30	1	A50908	Bow thruster bridge panel	0381-3230-3	
31	2	A48335	Bow thruster wing panel	0381-3018-3	
35	1	A38466	Local emergency override panel	0381-1951-3	
36	1	A56936	External start/ stop panel	0381-3689-3	C



**FRAMO SPECIFICATION
ORDER NOS.**

613662-65/1, 613997-99/1, 614000/1

No. **0240-0630-4**
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Rev.: D/26Apr06/ØH

<u>Item</u>	<u>Qty.</u>	<u>ID no.</u>	<u>Description/Title</u>	<u>Drawing no.</u>	<u>Last revision</u>
<u>Portable pump w / equipment</u>					
40	1	A49293-ABS	Portable pump TK80 Flexible hose, L = 18 m	0259-0549-1	
42	1	A21400	Portable winch	0911-0444-4	
43	4	A39754	Non-return valve, LP snap-on	0179-0297-3	
44	4	A39761	Ball valve, HP snap-on	0179-0302-3	
45	1	A53400-ABS	Return hose, L = 18 m	0910-0236-3	
47	1	A49275-ABS	Pressure hose, L = 18 m	0910-0234-3	
49	1	A7225	Cargo adapter, JIS 80A 16K	0259-0392-3	
55	1	A39768	Equipment for portable pump operation	0125-0845-3	
<u>Equipment for cargo pump</u>					
60	14	88781	Snap-on coupling	0257-0991-3	
61	3	106252	Flexible hose, L = 2 m	0257-0993-3	
62	14	157065	Exhaust trap	0255-0793-4	
63	14	A30000	Cargo purging valve	0321-0294-2	
64	14	A31206	Welding flange for cargo purging valve	0321-0285-4	

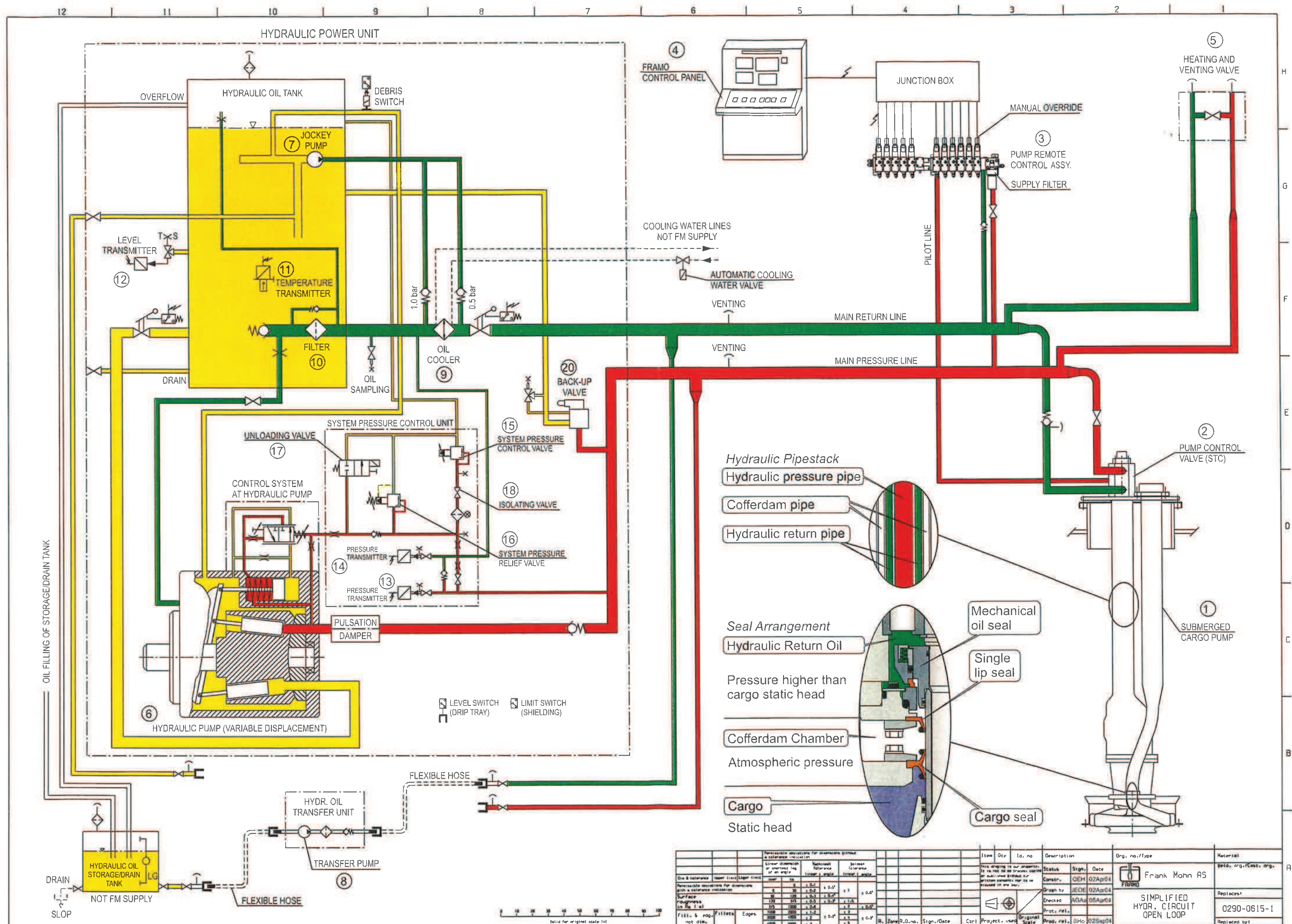


FRAMO SPECIFICATION ORDER NOS.

613662-65/1, 613997-99/1, 614000/1

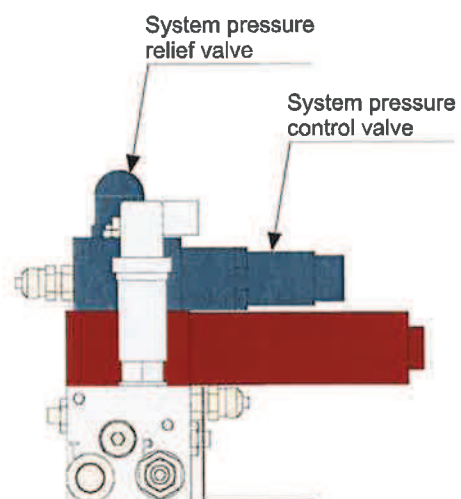
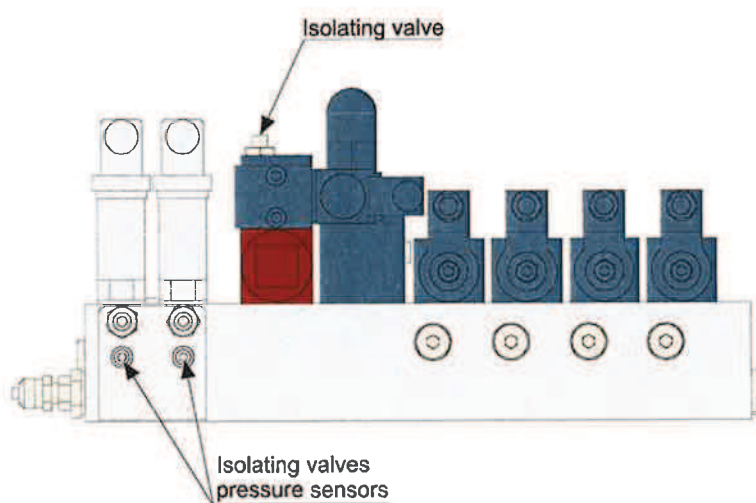
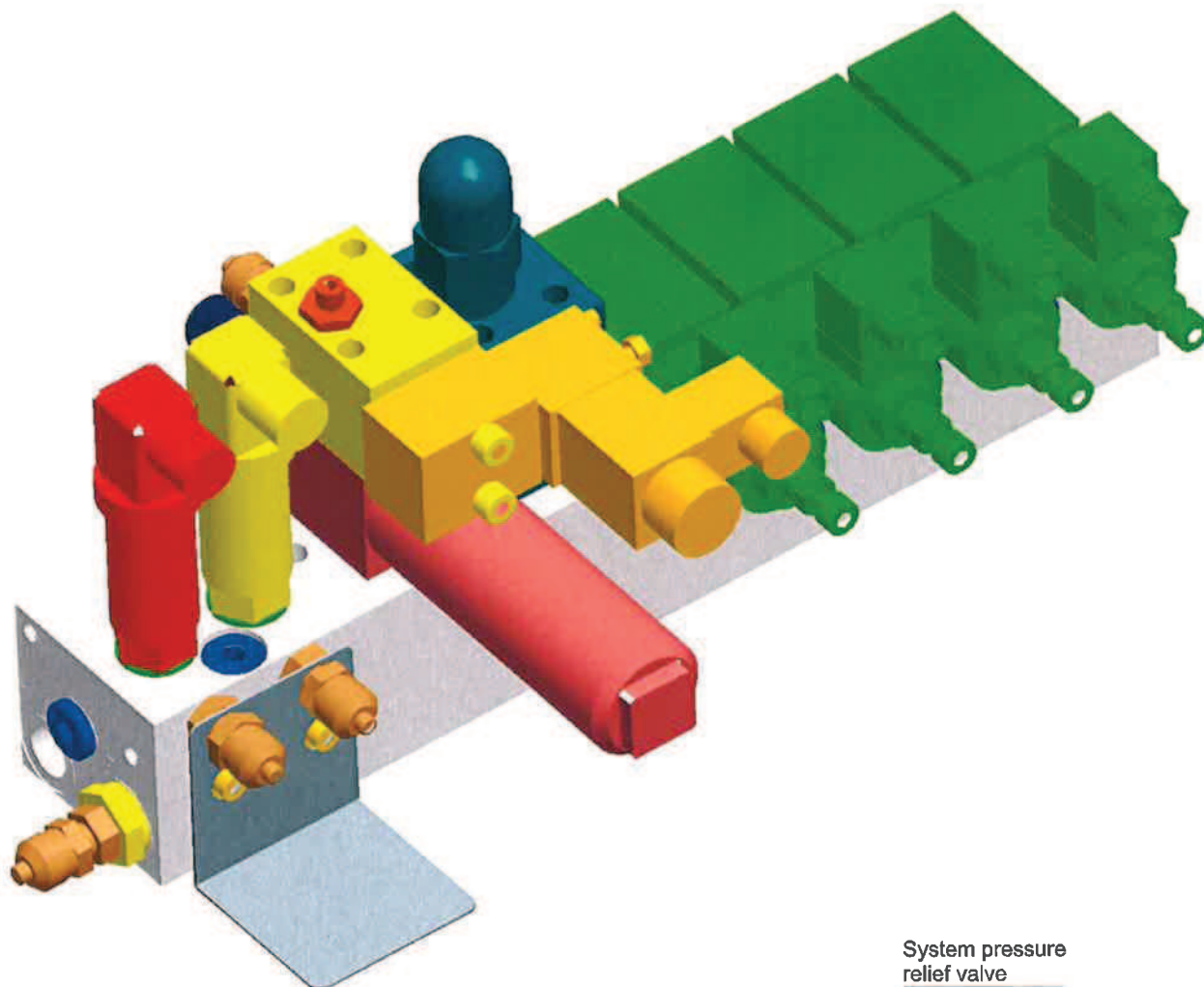
No. 0240-0630-4
Date/sign.: 10Dec04/ØH
Page: 4
Rev.: D/26Apr06/ØH

<u>Item</u>	<u>Qty.</u>	<u>ID no.</u>	<u>Description/Title</u>	<u>Drawing no.</u>	<u>Last revision</u>
<u>Cargo pump SD100</u>					
70	2	A27323	Set of bolts and gasket, SD100	0366-1044-4 A27323	
71	2	3032901	Bottom support, SD100	0361-0243-3	
72	2	3024031	Intermediate support, SD100	0361-0233-2	
73		A50280	Cargo pump SD100	0378-0967-4	D
			Top plate arrangement	0378-0963-4	
			Minimum suction well	0378-1263-4	
			Space for temp. sensor box	0378-0964-4	
			L = 11320 mm, A1 = 4000 mm		D
73-0	1		Orientation of hydr. connection: 0°		D
73-1	1		Orientation of hydr. connection: 180°		D
77	2	A51542	Cargo flange, SD100 JIS Schedule 20S	0378-1254-4	
80	2	A14103	Deck trunk, SD100 H = 500 mm, Mild steel	0378-0454-4	
<u>Cargo pump SD150</u>					
110	12	A27325	Set of bolts and gasket, SD150	0366-1044-4 A27325	
111	24	A10160	Intermediate/bottom support, SD150	0367-0161-2	
112		A48791	Cargo pump SD150	0387-0544-4	D
			Top plate arrangement	0387-0385-4	
			Minimum suction well	0387-0546-4	
			Space for temp. sensor box	0387-0352-4	
			L = 11320 mm, A1 = 4000 mm		D
112-0	6		Orientation of hydr. connection: 0°		D
112-1	6		Orientation of hydr. connection: 180°		D
116	12	A51568	Cargo flange, SD150 JIS Schdule 20S	0387-0591-4	
119	12	A8790	Deck trunk, SD150 H = 500 mm, Mild steel	0366-0541-4	

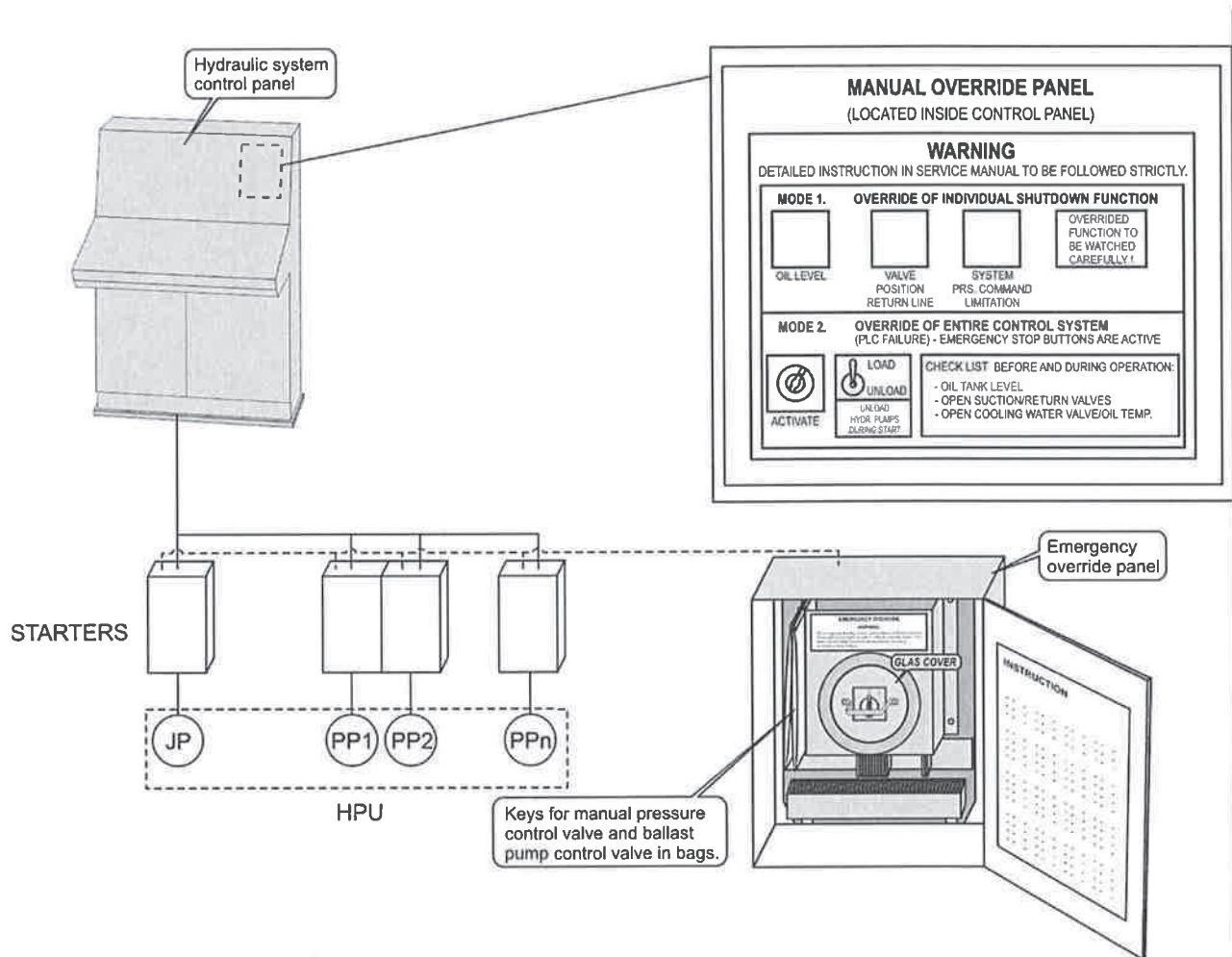


Permissible deviations for dimensions without a tolerance indication				Item Qty Id. no Description				Org. no./Type		Material	
Linear dimension on unrounded top of an angle	Roundness tolerance (linear) angle	Roundness tolerance (circular) angle	Roundness tolerance (circular) angle	This drawing is for an assembly. It is not to be used directly. For all linear dimensions the British standard may be so indicated in any way.	Status	Sign.	Date		Frank Mohn AS	Field, org./cust. org.	A
Over 30	± 0.1	± 0.5°	± 0.5°		Consent.	OEH	02Apr04				
6 - 30	± 0.1	± 0.3°	± 0.3°		Design by	JEOE	02Apr04				
30 - 120	± 0.1	± 0.3°	± 0.3°		Checked	AGAU	05Apr04				
120 - 300	± 0.1	± 0.3°	± 0.3°		Proc. rel.						
300 - 1000	± 0.1	± 0.3°	± 0.3°		Proc. rel.						
1000 - 2000	± 0.1	± 0.3°	± 0.3°		Proc. rel.						
2000 - 10000	± 0.1	± 0.3°	± 0.3°		Proc. rel.						
10000 - 30000	± 0.1	± 0.3°	± 0.3°		Proc. rel.						
30000 - 100000	± 0.1	± 0.3°	± 0.3°		Proc. rel.						
100000 - 300000	± 0.1	± 0.3°	± 0.3°		Proc. rel.						
300000 - 1000000	± 0.1	± 0.3°	± 0.3°		Proc. rel.						
1000000 - 3000000	± 0.1	± 0.3°	± 0.3°		Proc. rel.						
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10000000 - 30000000	± 0.1	± 0.3°	± 0.3°		Proc. rel.						
30000000 - 100000000	± 0.1	± 0.3°	± 0.3°		Proc. rel.						
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300000000000000000000000000000 - 1000000000000000000000000000000	± 0.1	± 0.3°	± 0.3°		Proc. rel.						
1000000000000000000000000000000 - 3000000000000000000000000000000	± 0.1	± 0.3°	± 0.3°		Proc. rel.						
3000000000000000000000000000000 - 10000000000000000000000000000000	± 0.1	± 0.3°	± 0.3°		Proc. rel.						
10000000000000000000000000000000 - 30000000000000000000000000000000	± 0.1	± 0.3°	± 0.3°		Proc. rel.						
30000000000000000000000000000000 - 100000000000000000000000000000000	± 0.1	± 0.3°	± 0.3°		Proc. rel.						
100000000000000000000000000000000 - 300000000000000000000000000000000	± 0.1	± 0.3°	± 0.3°		Proc. rel.						
300000000000000000000000000000000 - 1000000000000000000000000000000000	± 0.1	± 0.3°	± 0.3°		Proc. rel.						
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1000 - 3000	± 0.1	± 0.3°	± 0.3°		Proc. rel.						
3000 - 100	± 0.1	± 0.3°	± 0.3°		Proc. rel.						
100 - 300	± 0.1	± 0.3°	± 0.3°		Proc. rel.						
300 - 1000	± 0.1	± 0.3°	± 0.3°		Proc. rel.						
1000 - 3000	± 0.1	± 0.3°	± 0.3°		Proc. rel.						
3000 - 100	± 0.1	± 0.3°	± 0.3°		Proc. rel.						
100 - 300	± 0.1	± 0.3°	± 0.3°		Proc. rel.						
300 - 1000	± 0.1	± 0.3°	± 0.3°		Proc. rel.						
1000 - 3000	± 0.1	± 0.3°	± 0.3°		Proc. rel.						
3000 - 100	± 0.1	± 0.3°	± 0.3°		Proc. rel.						
100 - 300	± 0.1	± 0.3°	± 0.3°		Proc. rel.						
300 - 1000	± 0.1	± 0.3°	± 0.3°		Proc. rel.						
1000 - 3000	± 0.1	± 0.3°	± 0.3°		Proc. rel.						

Control Block Open System



Override Open System



Emergency Override Panel

EMERGENCY OVERRIDE INSTRUCTION

1. Break glass cover and operate switch for bypassing stop signals from control panel.
2. Start the jockey pump locally at the starters.
3. Start required power packs locally at the starters.
4. Open system pressure relief valve, fig. 1 (turn CCW).
5. Close isolating valve (turn CW).

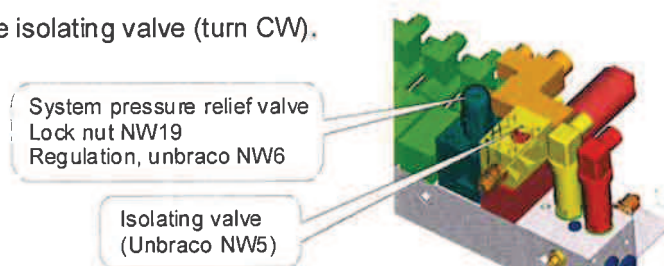


Fig. 1 System pressure / pump pressure manual control

6. Regulate system pressure, with system pressure relief valve.
CW = Increase
CCW = Decrease
7. Regulate ballast pump pressure with manual pressure control screw.
- 7.1 Open lock-nut
- 7.2 Regulate pressure with adjustment screw
CW = increase
CCW = decrease

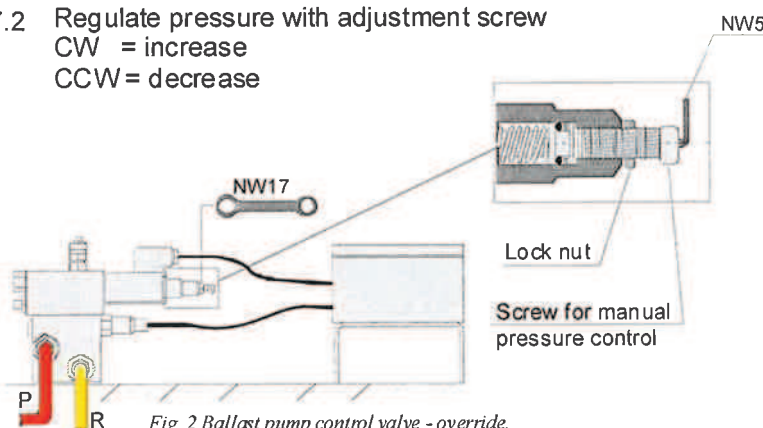


Fig. 2 Ballast pump control valve - override.

Required tools are located in the emergency override panel.