



Electrical installation instructions

**Danfoss Heat Pumps
DHP-L**

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Electrical installation

Danfoss heat pumps are factory-wired internally. The leads that are to be connected are the mains supply (5-wire DPH), outdoor temperature sensor and room sensors (if any).

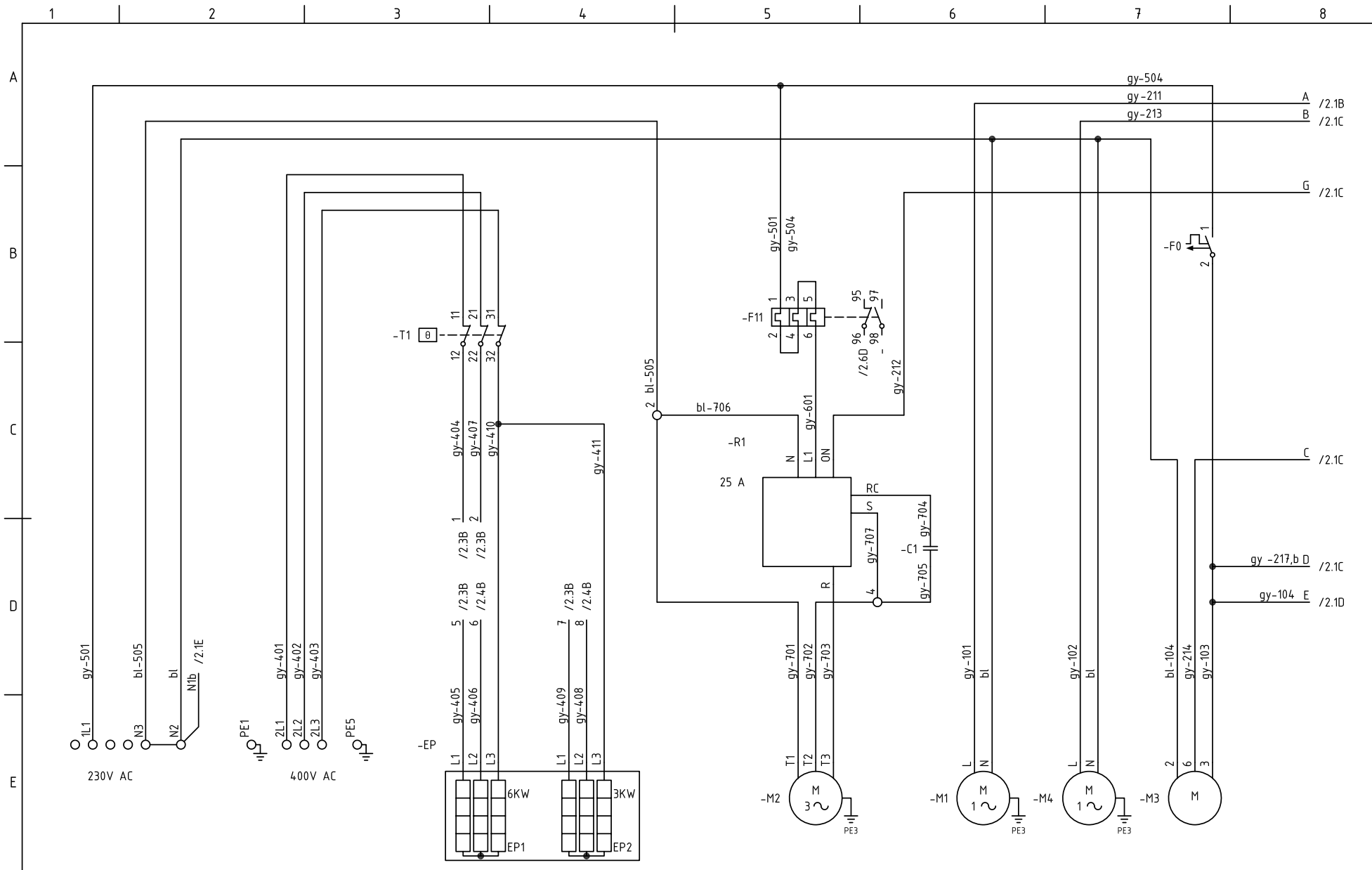
- All electrical wiring must be carried out by a certified electrician in compliance with local and national codes and regulations. When in doubt, contact the local electricity distributor.
- The mains lead is passed through the top of the unit.
- Remove the front panel to get access to the terminal blocks. Connect the mains lead to the terminal block according to the accompanying schematic diagram.
- The connection of the heat pump to the mains supply must be hard-wired and a multi-pole switch (safety switch) must be installed in the power supply line to the unit.

WARNING! To disconnect the power supply to the heat pump, the safety switch must be switched off.

NOTE! The cables to the outdoor and indoor sensors carry low voltage. Interference from surrounding cables may affect these and cause incorrect information to be sent to the control unit. It is therefore vitally important that careful consideration be given to positioning of cables. Low-voltage cables must be kept well separated from high-voltage cables. It is important that low-voltage cables are run parallel to high-voltage cables and separated by a distance of at least 25 cm for cable lengths up to 100 m. For longer cable lengths, the distance between cables should be increased.

Important information

Before switching on the power supply to the heat pump, you must ensure that the heating system, chilled water line and hot water heater are filled and vented. Otherwise, the circulation pumps can be severely damaged.



- bk black
- bn brown
- gy grey
- bl blue
- wh white
- rd red

Note! Can be connected to 230V single phase if auxiliary heater is disconnected.


Auxiliary heater

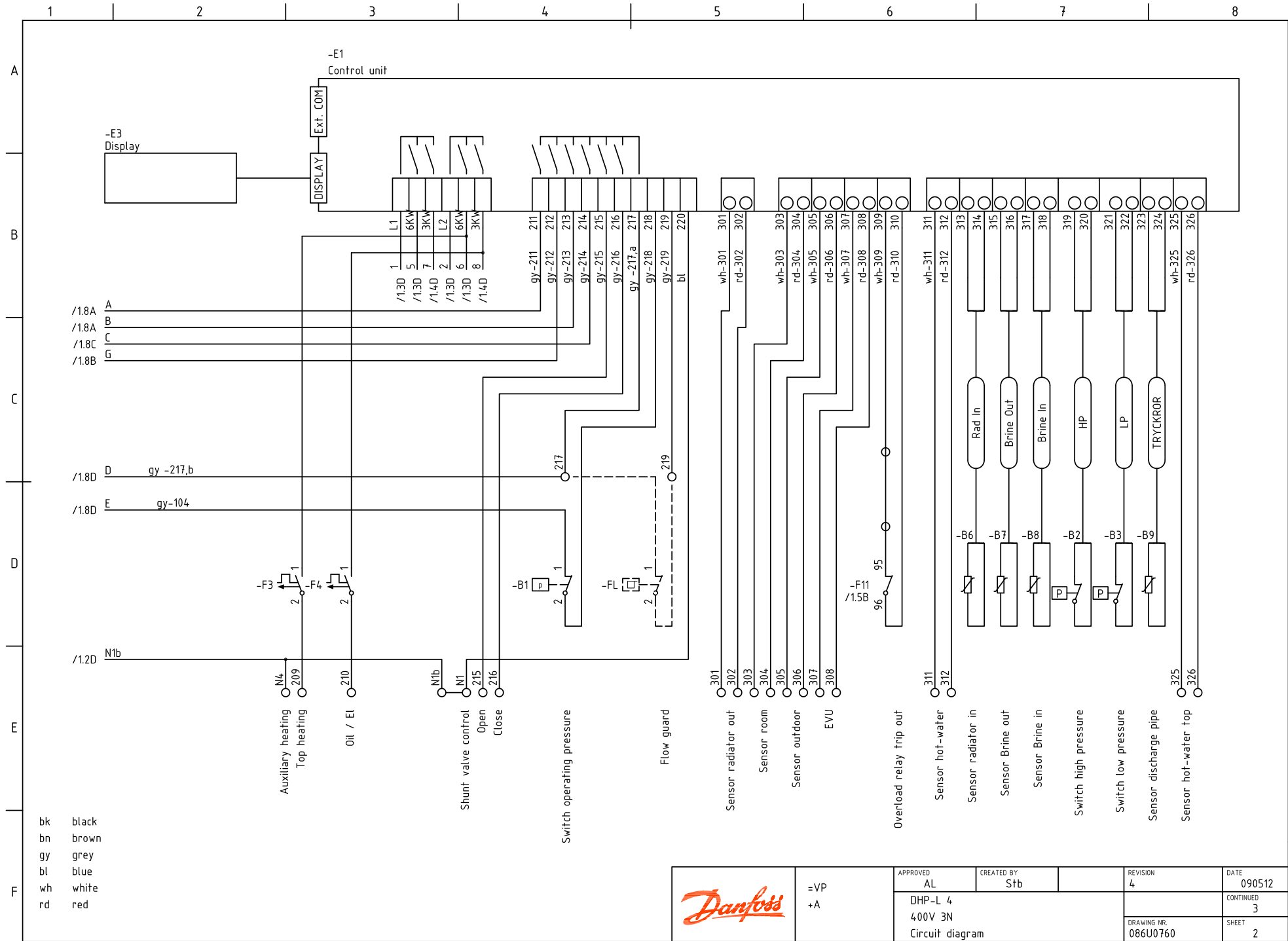
Compressor

Pump Brine

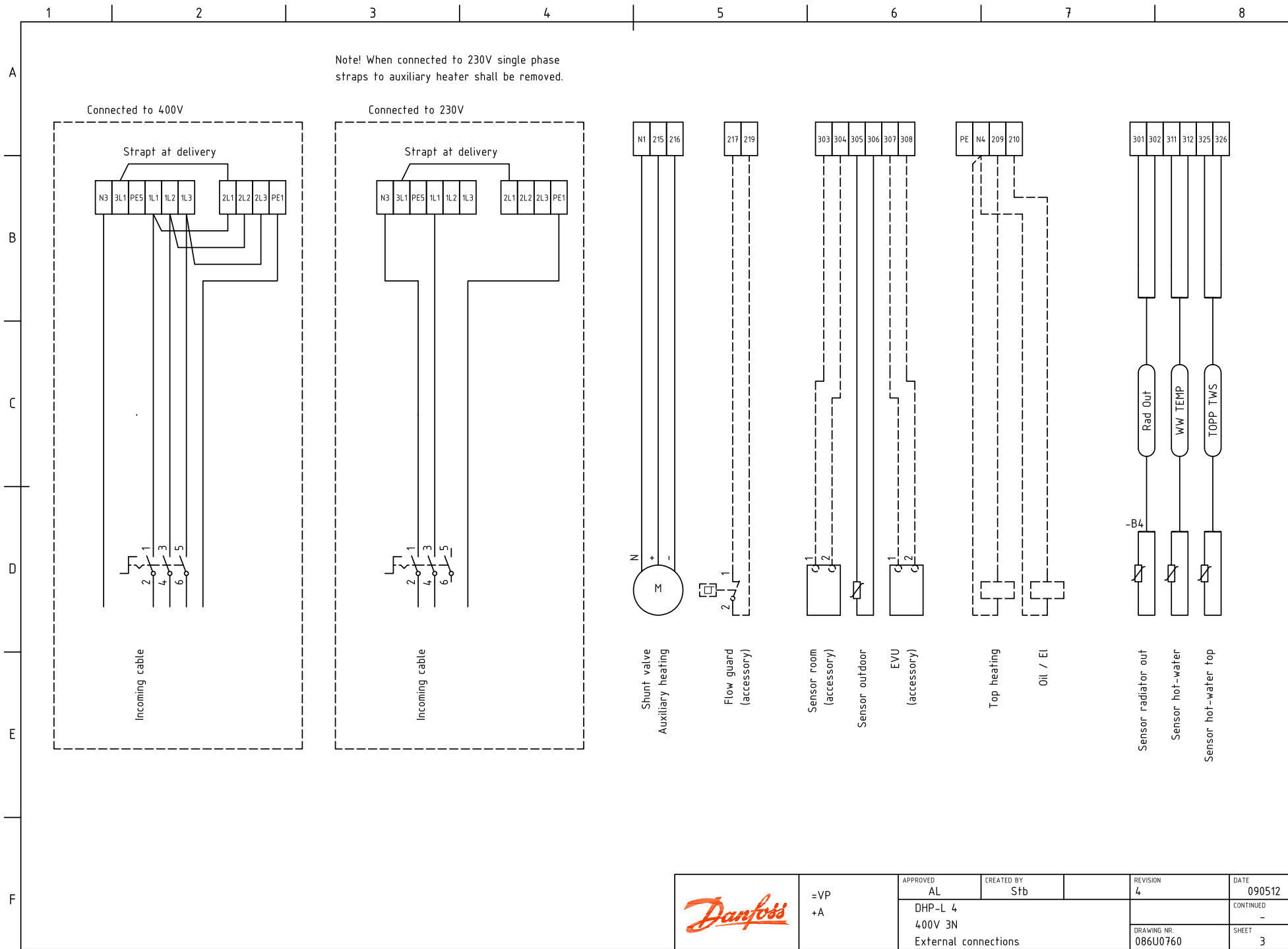
Pump circulation

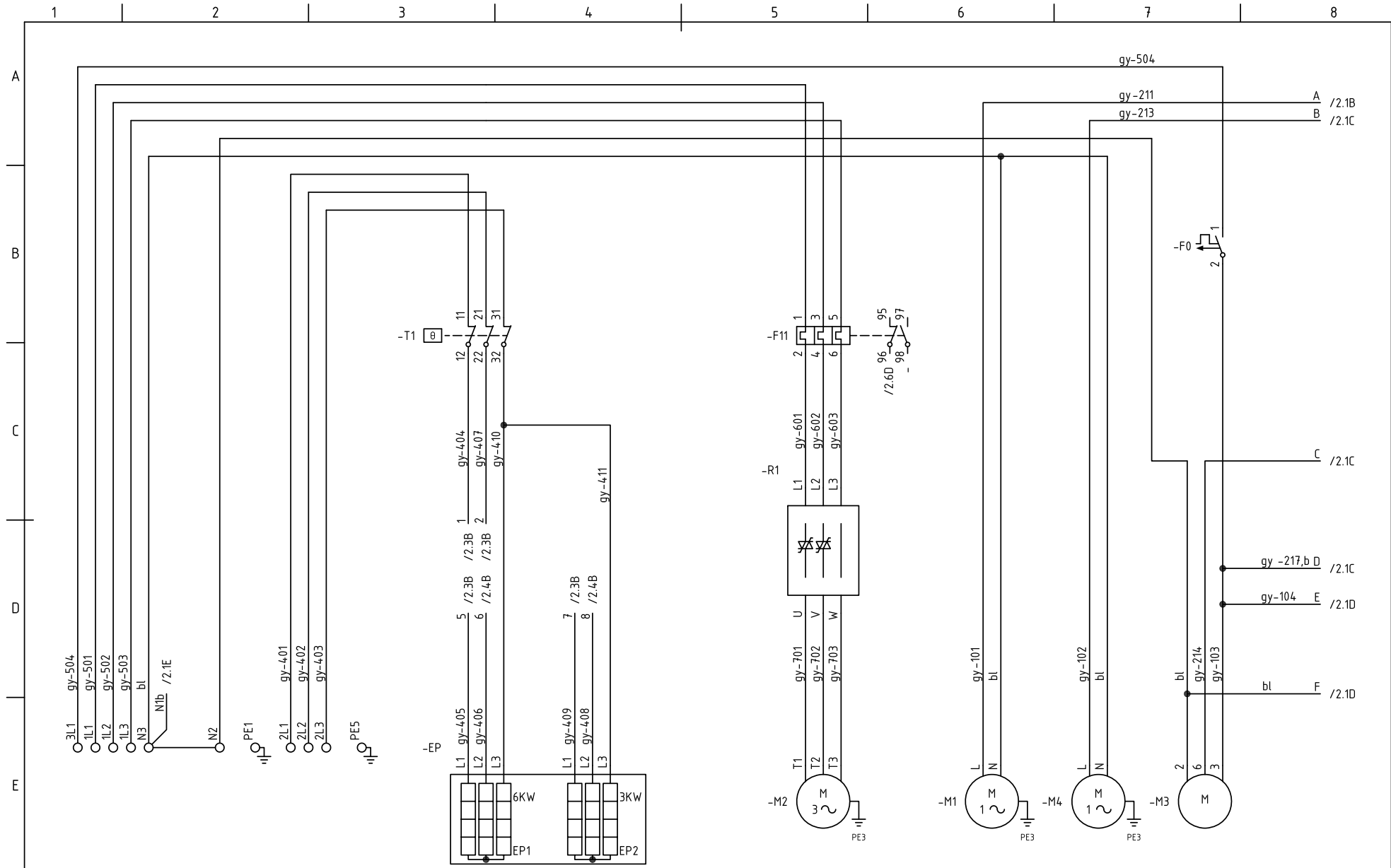
Reversing valve
Hot-water

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		DRAWING NR. 086U0760				



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		DHP-L 4 400V 3N Circuit diagram			CONTINUED 3	SHEET 2
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- bk black
- bn brown
- gy grey
- bl blue
- wh white
- rd red


Auxiliary heater

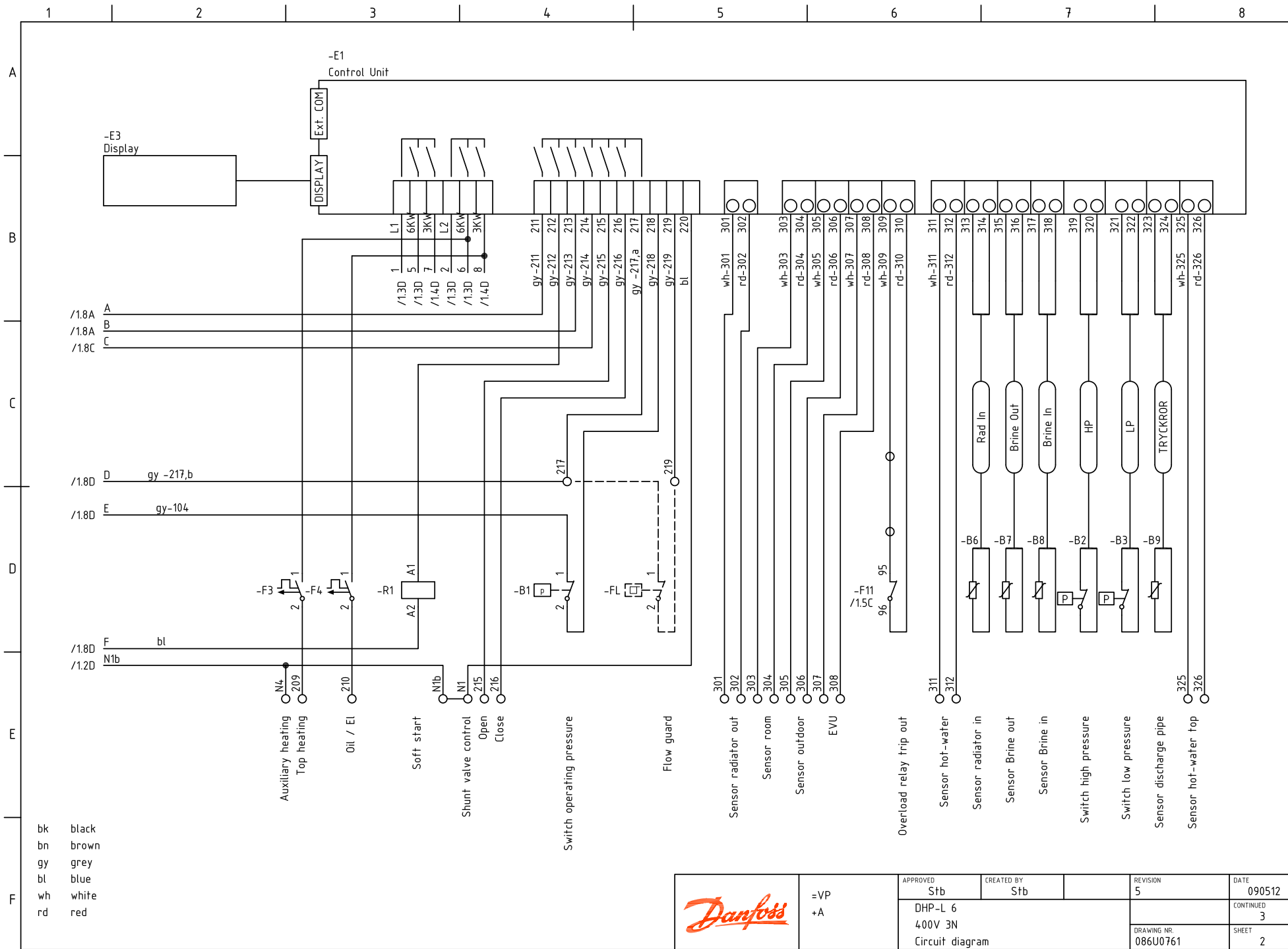
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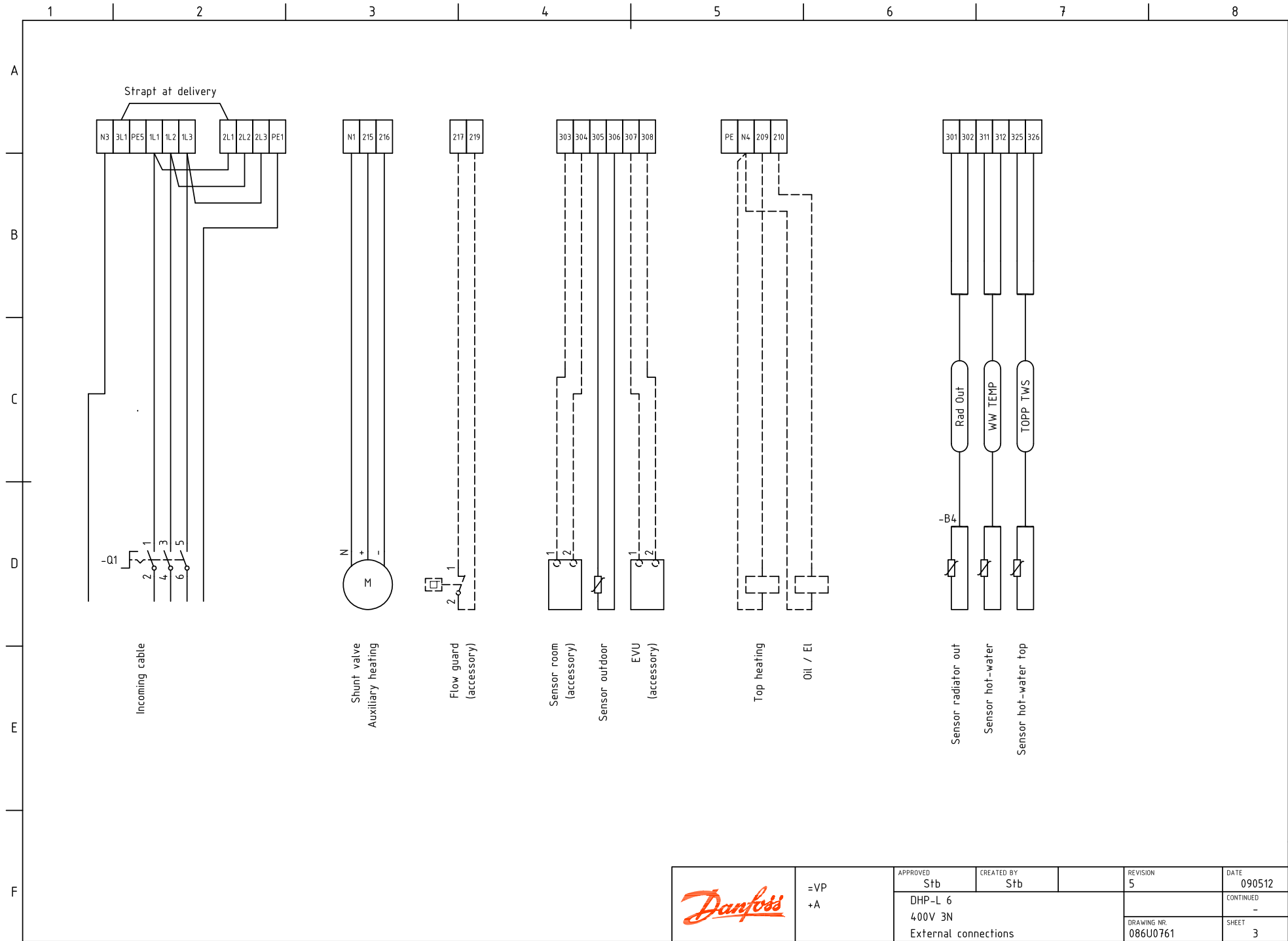
Pump Brine

Pump circulation

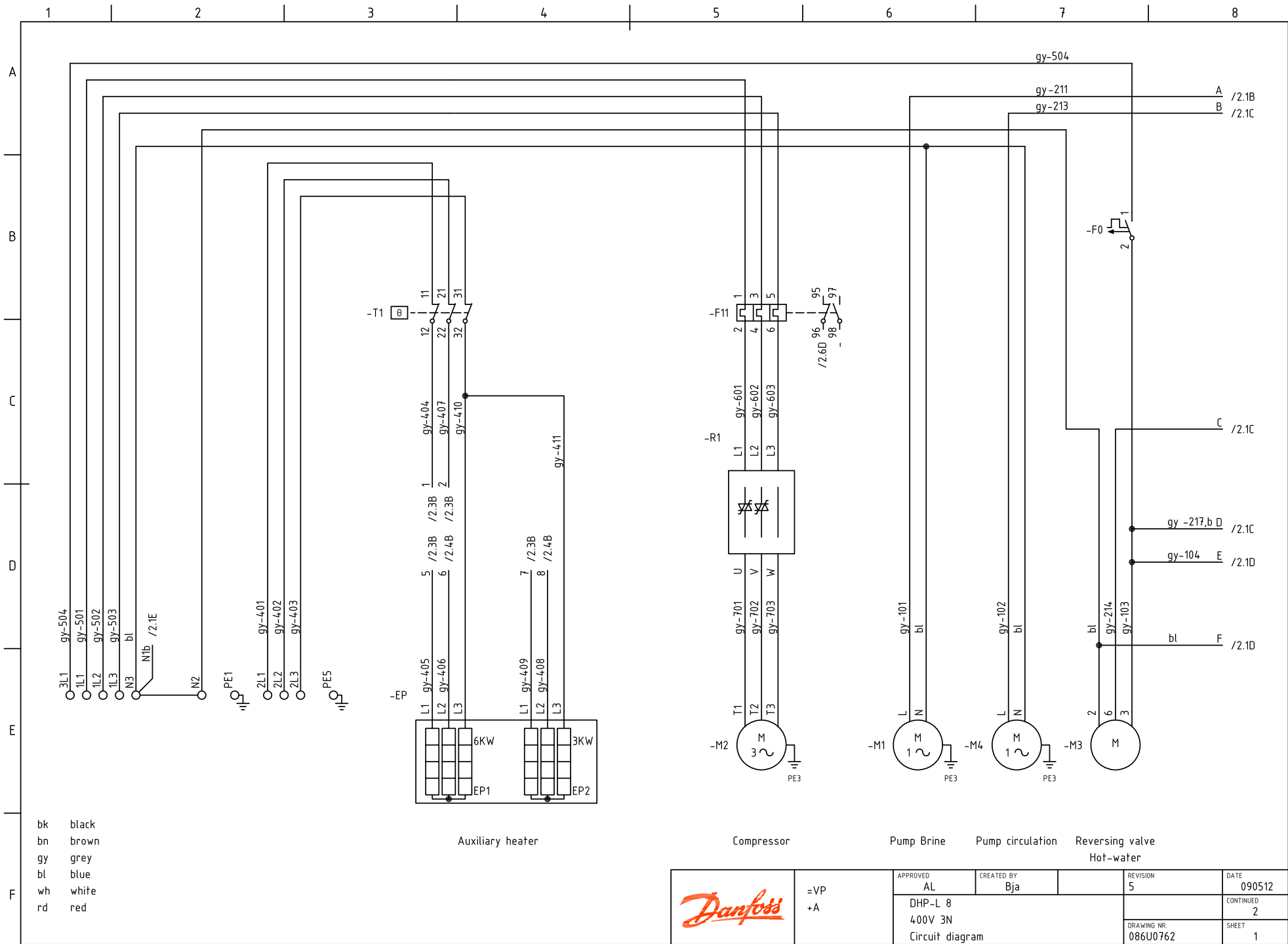
Reversing valve
Hot-water

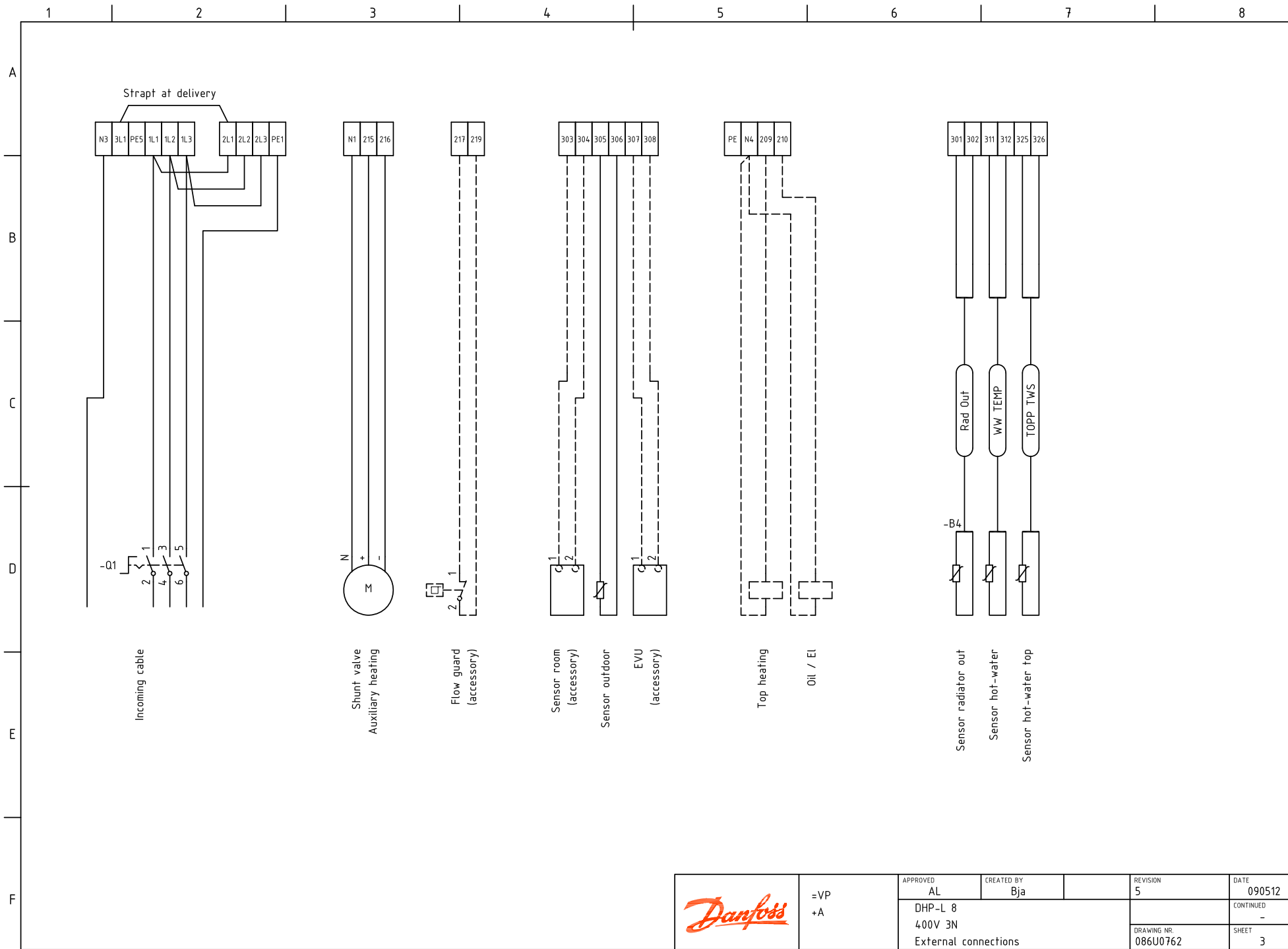
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		DHP-L 6 400V 3N External connections				CONTINUED -
					DRAWING NR. 086U0761	SHEET 3





Incoming cable

Shunt valve
Auxiliary heating

Flow guard
(accessory)

Sensor room
(accessory)

Sensor outdoor

EVU
(accessory)

Top heating

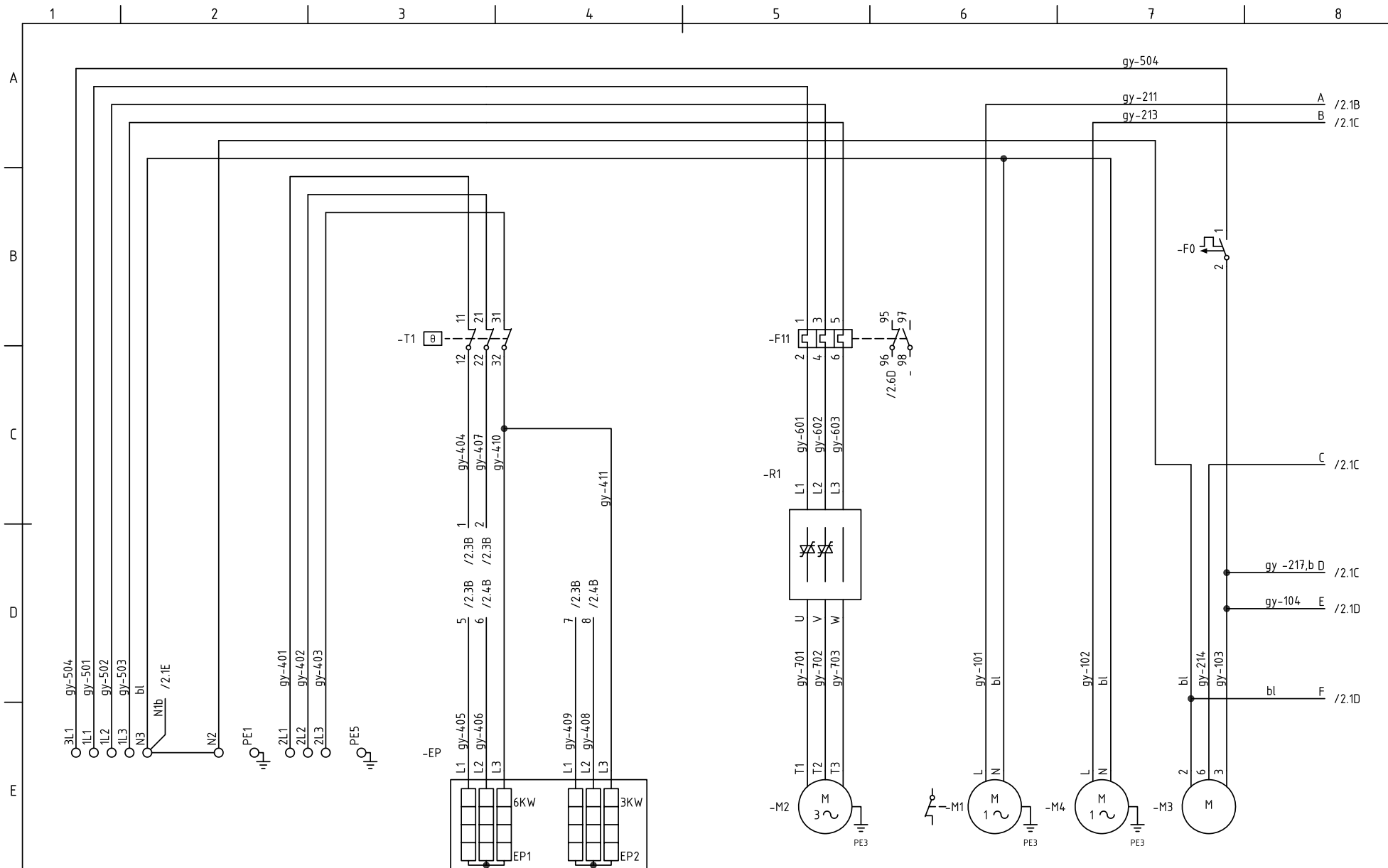
Oil / EI

Sensor radiator out

Sensor hot-water

Sensor hot-water top

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					DRAWING NR. 086U0762	SHEET 3



- bk black
- bn brown
- gy grey
- bl blue
- wh white
- rd red

Auxiliary heater


Compressor

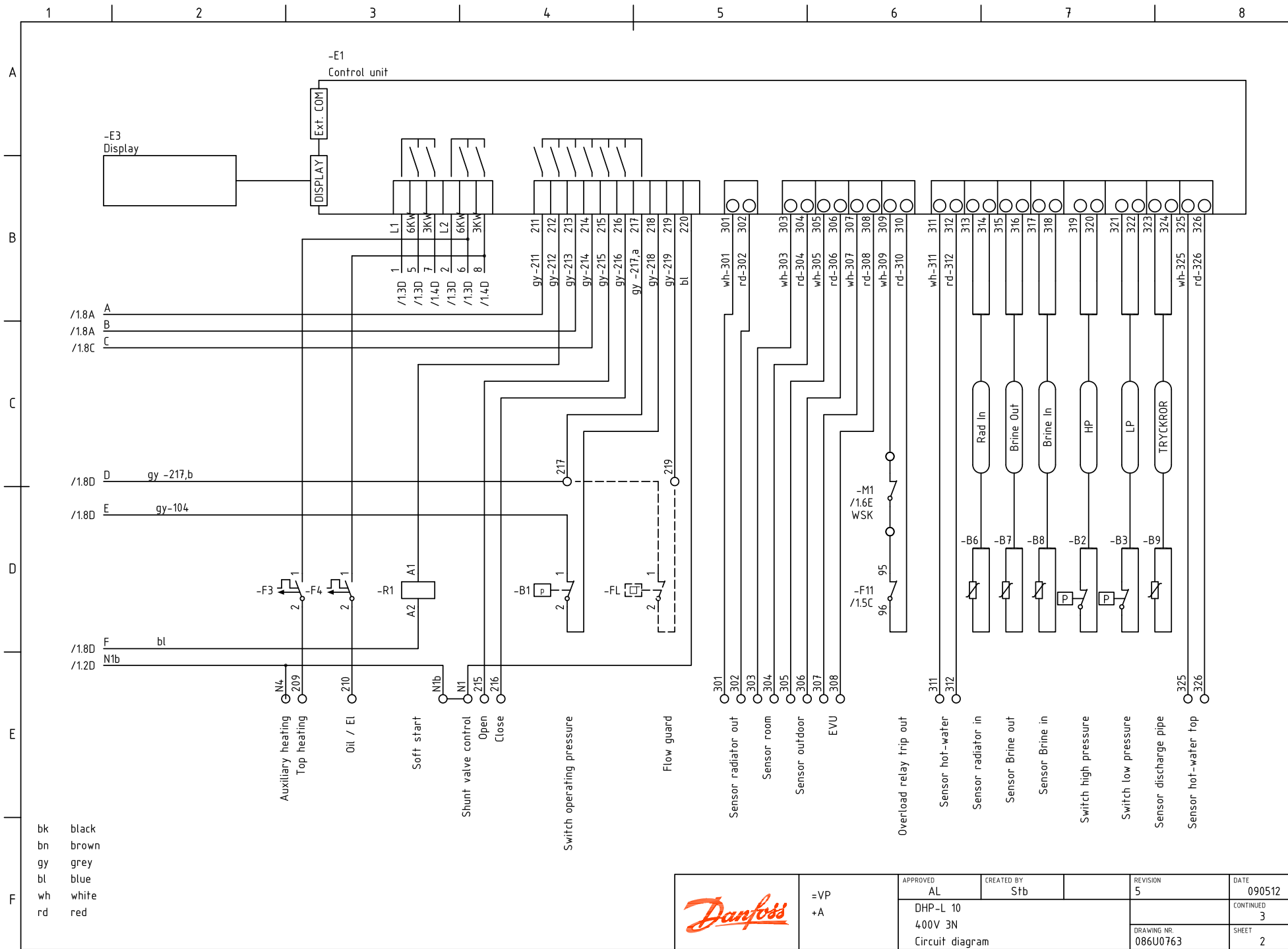
Pump Brine

Pump circulation

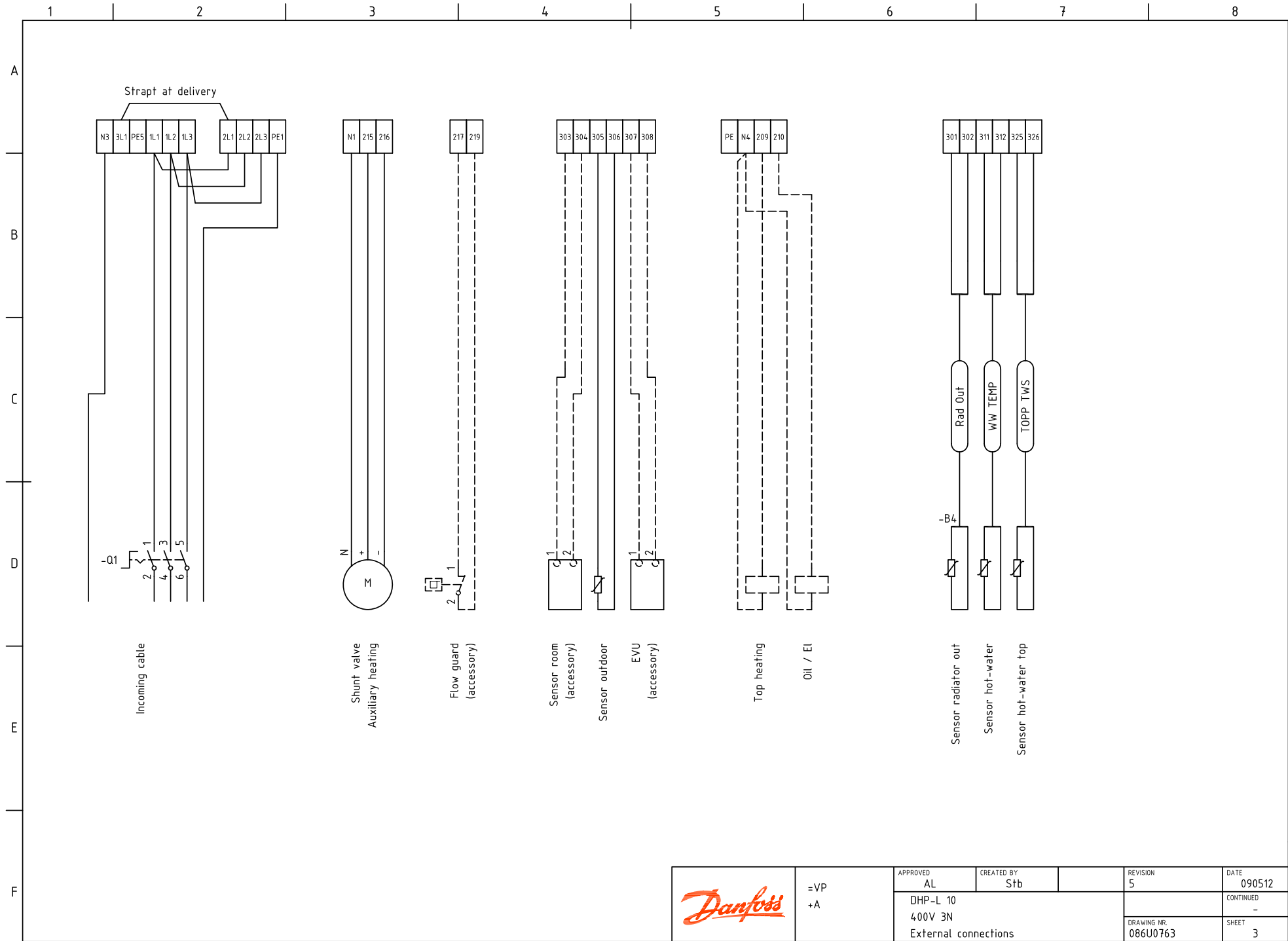
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Hot-water

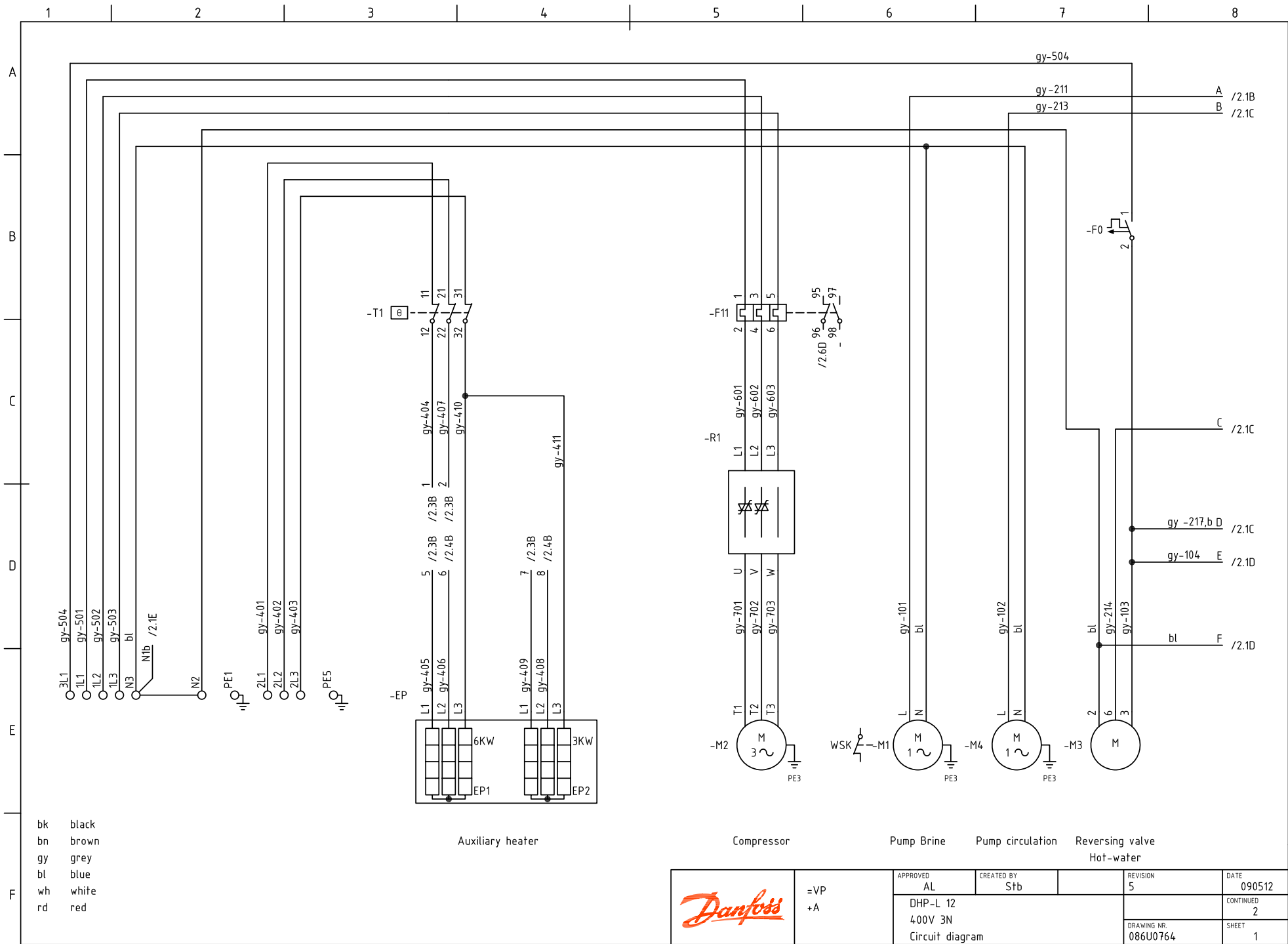
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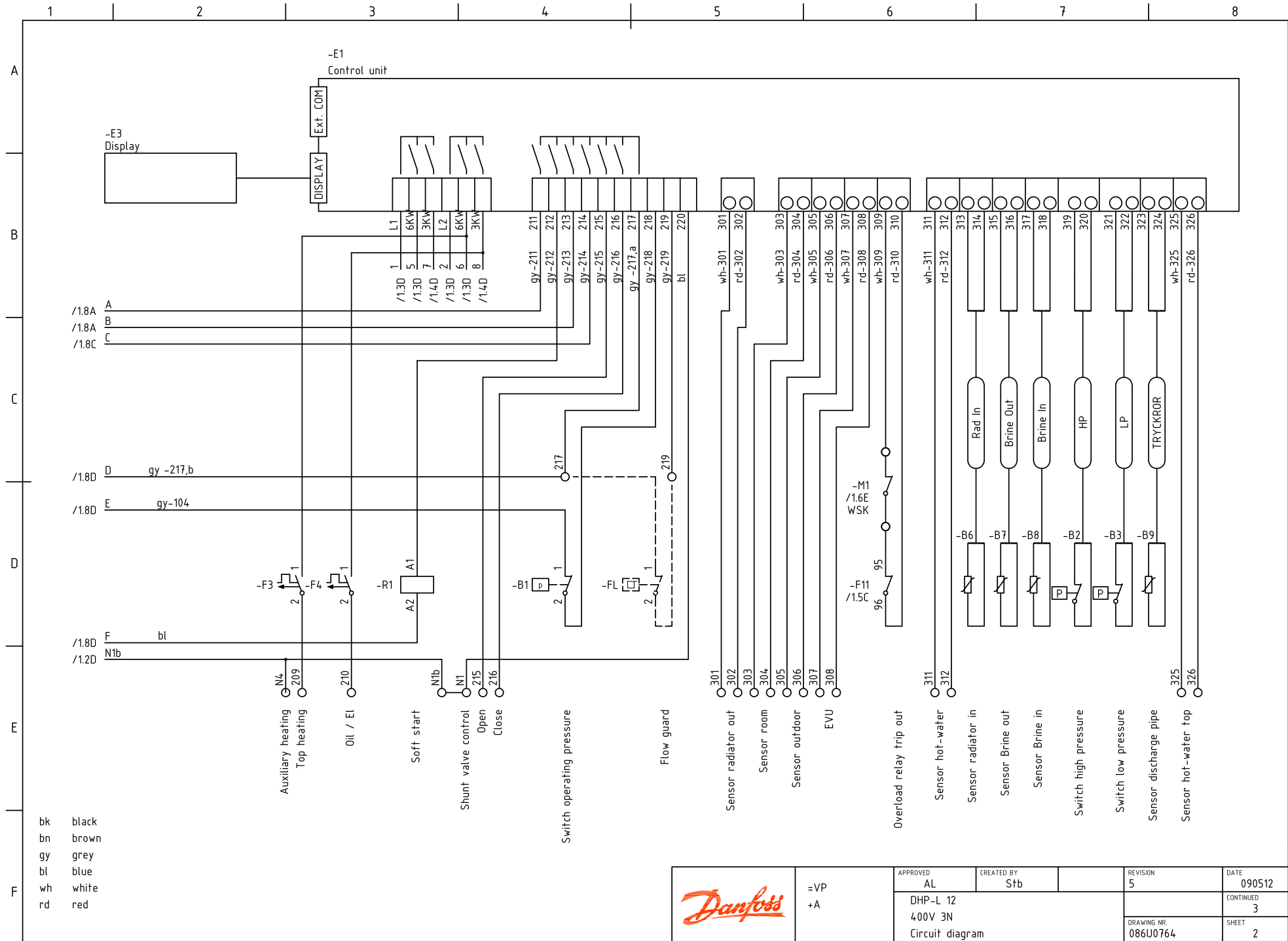


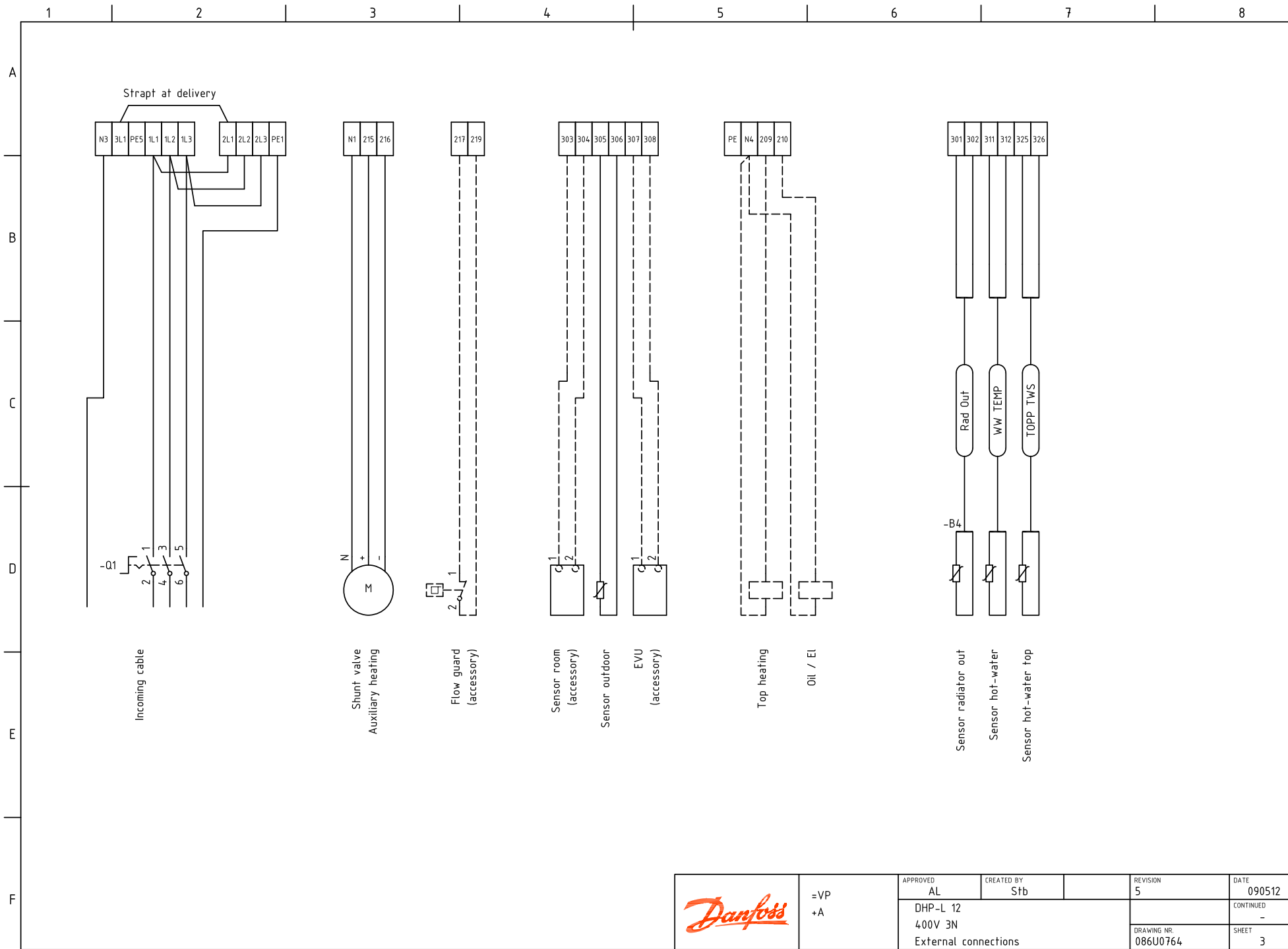
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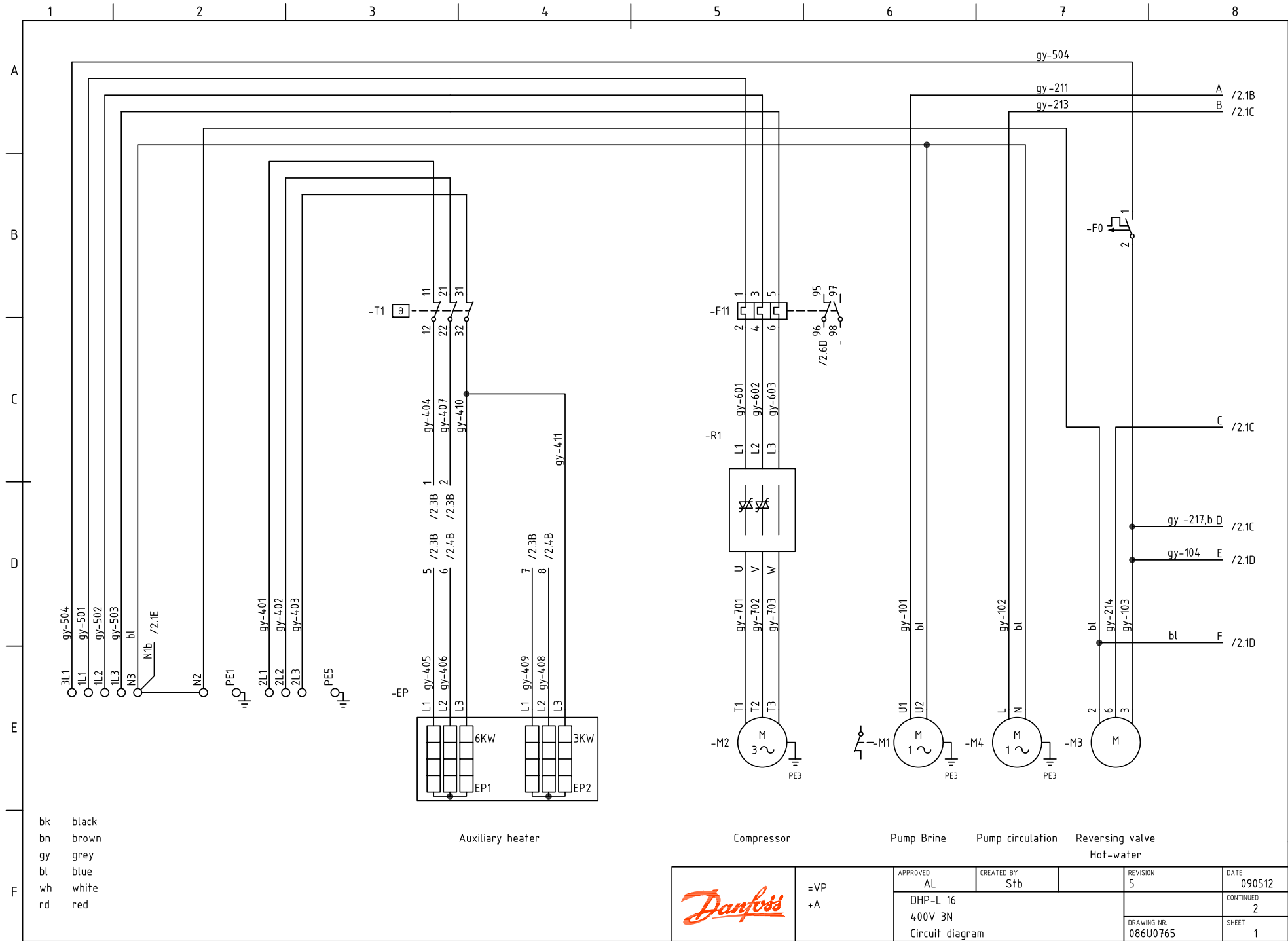
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		400V 3N				SHEET 3
External connections				DRAWING NR. 086U0763		

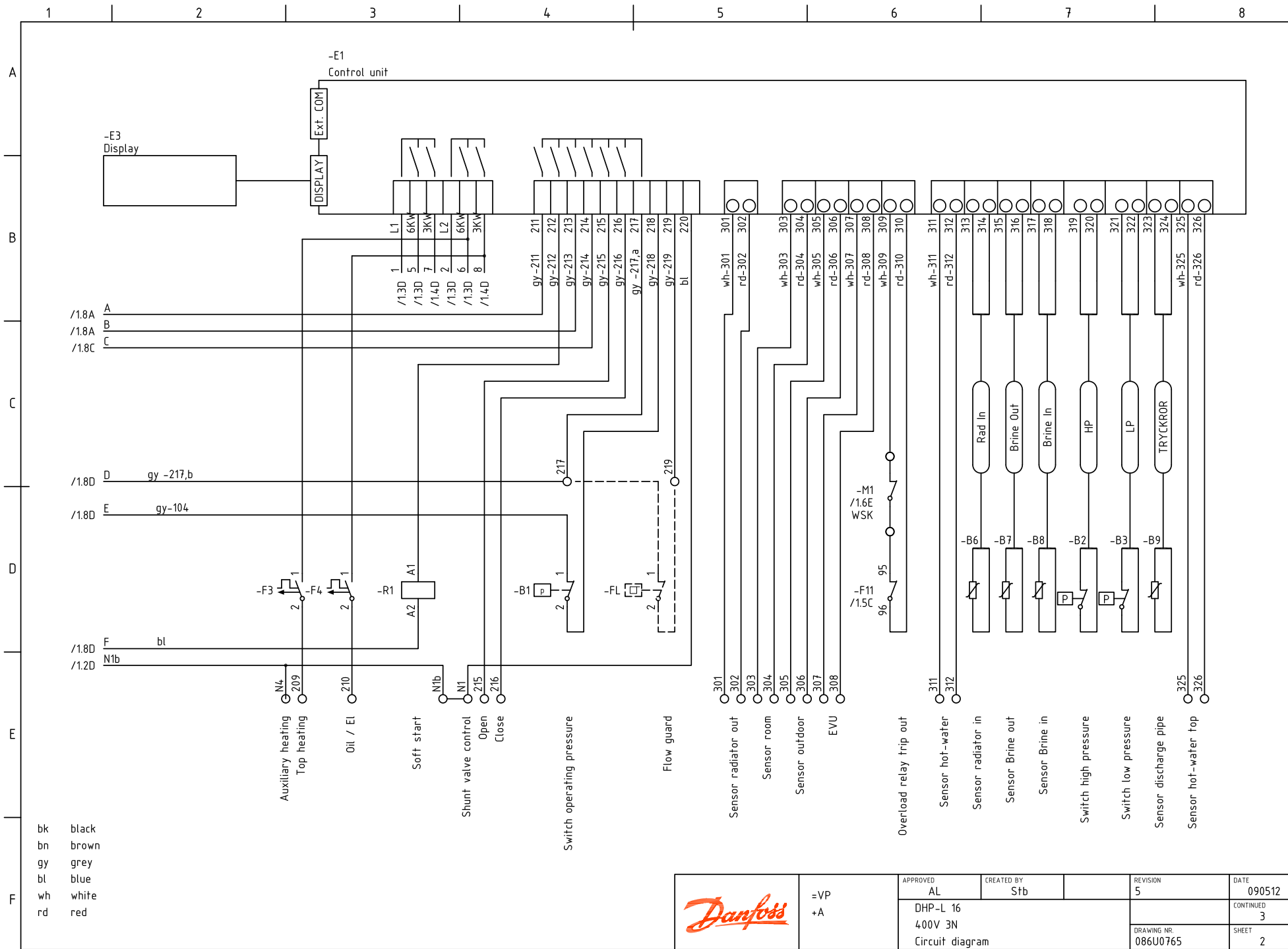




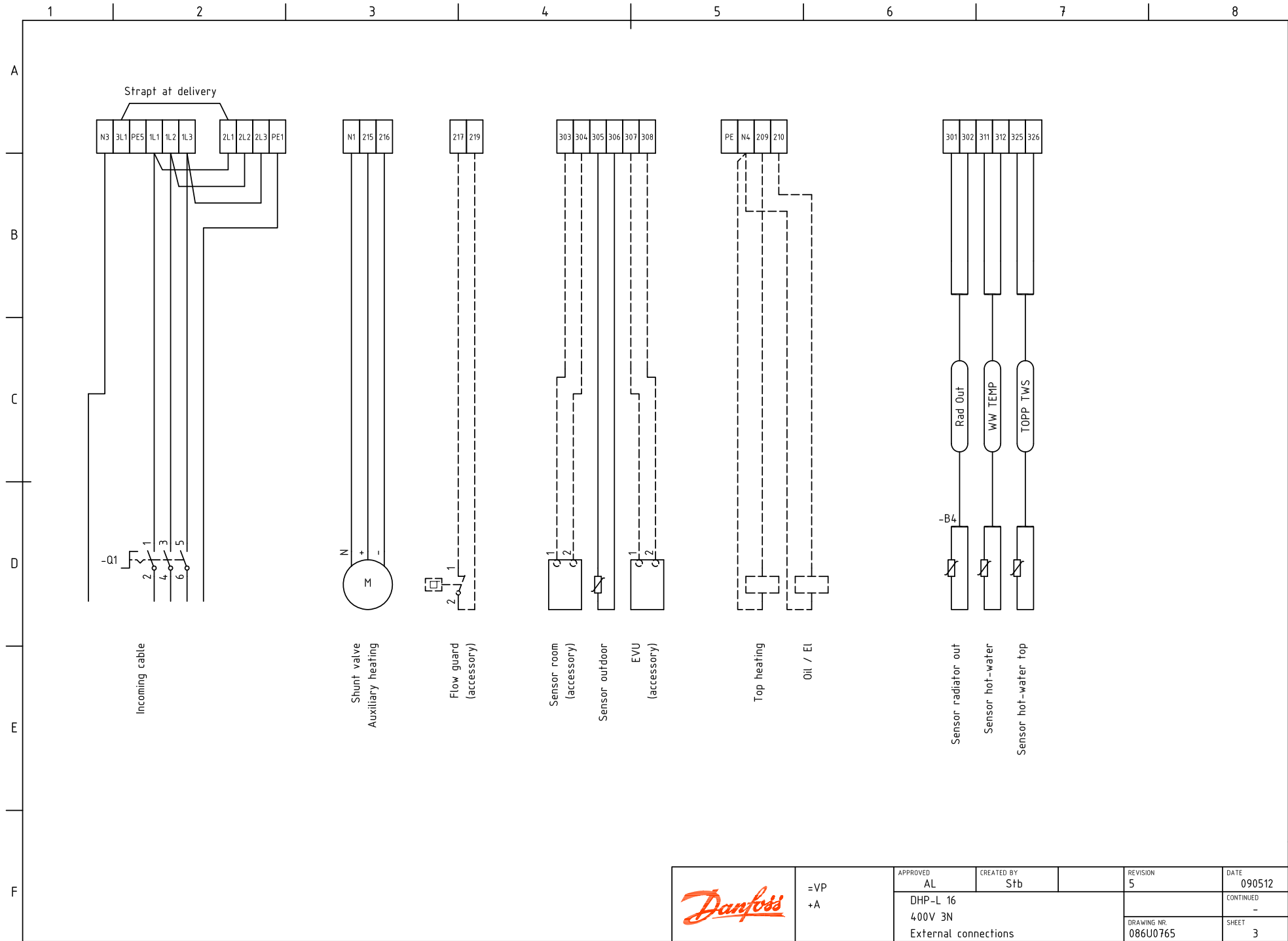



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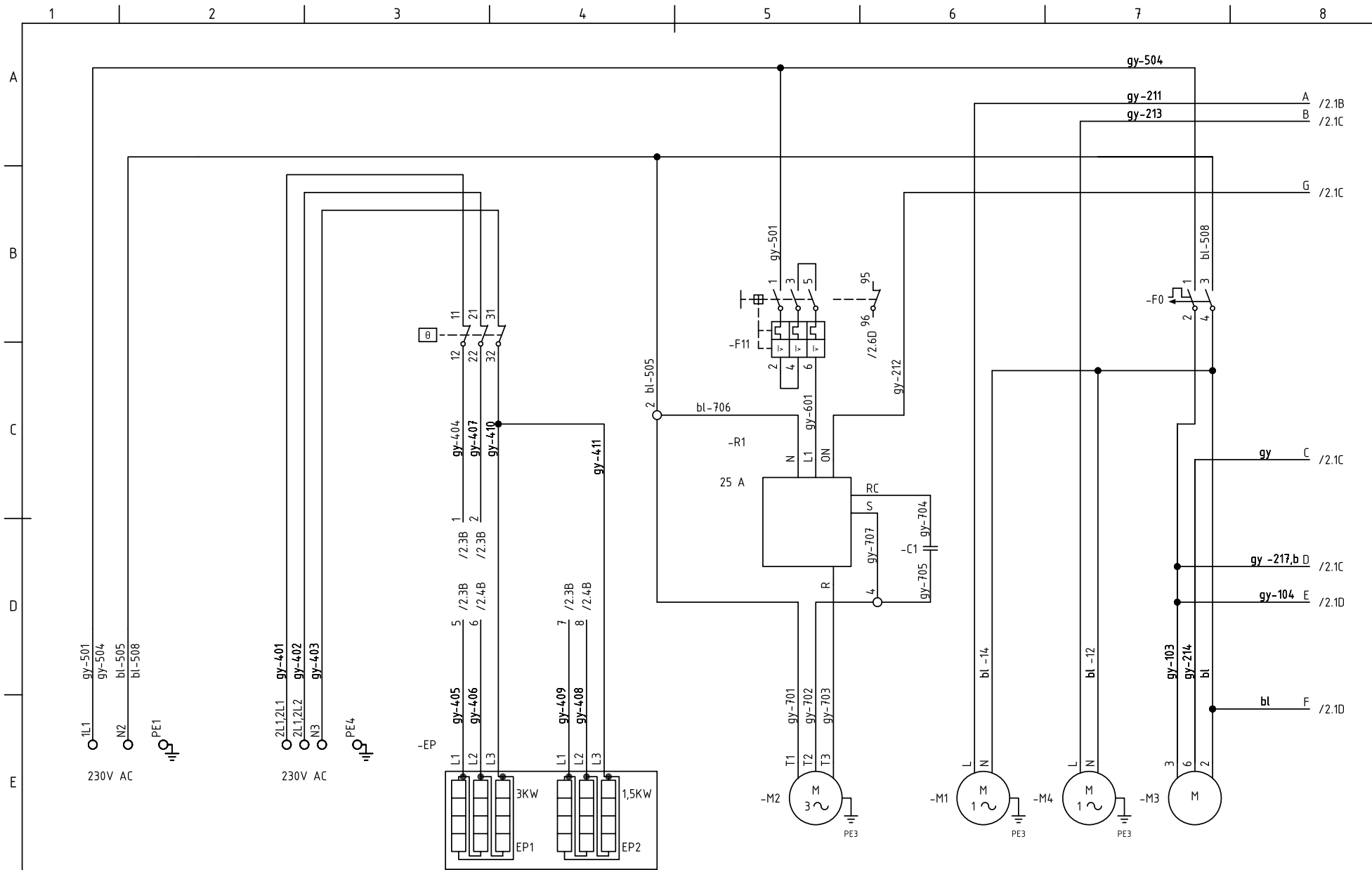




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	=VP +A	APPROVED AL	CREATED BY Stb	REVISION 5	DATE 090512	
		DHP-L 16 400V 3N External connections				CONTINUED -
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- bk black
- bn brown
- gy grey
- bl blue
- wh white
- rd red


Auxiliary heater

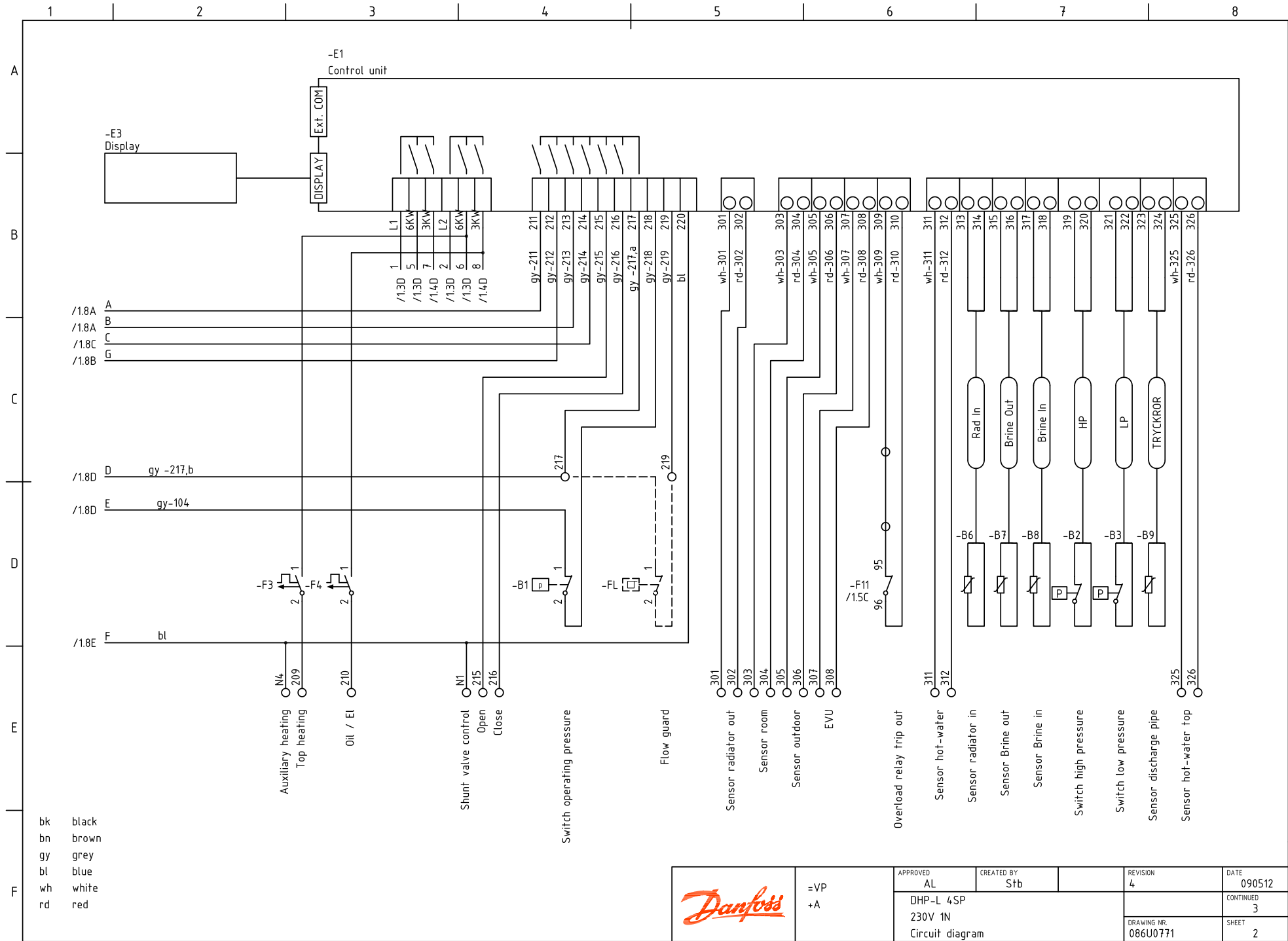
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Pump Brine

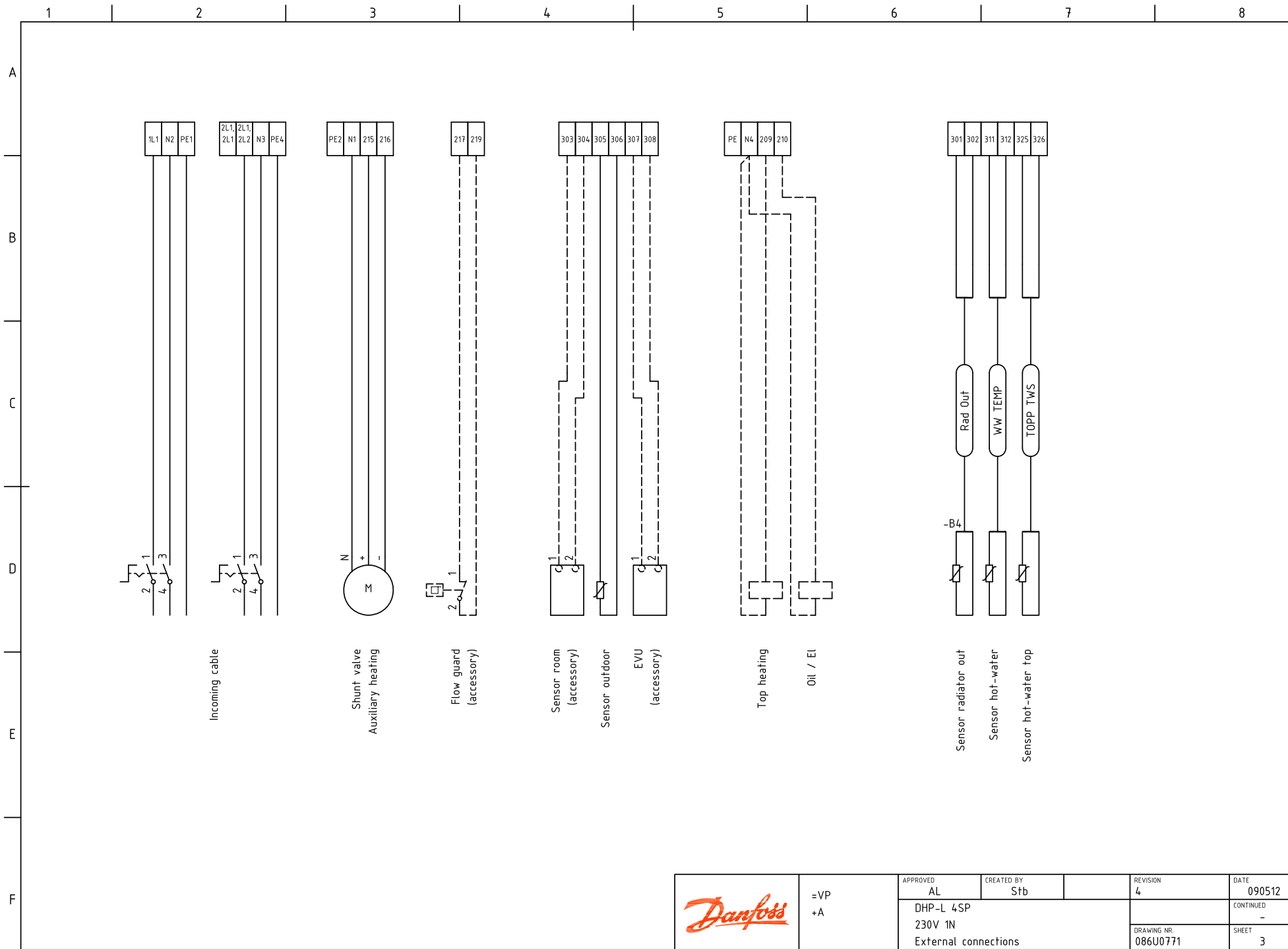
Pump circulation


Reversing valve
Hot-water

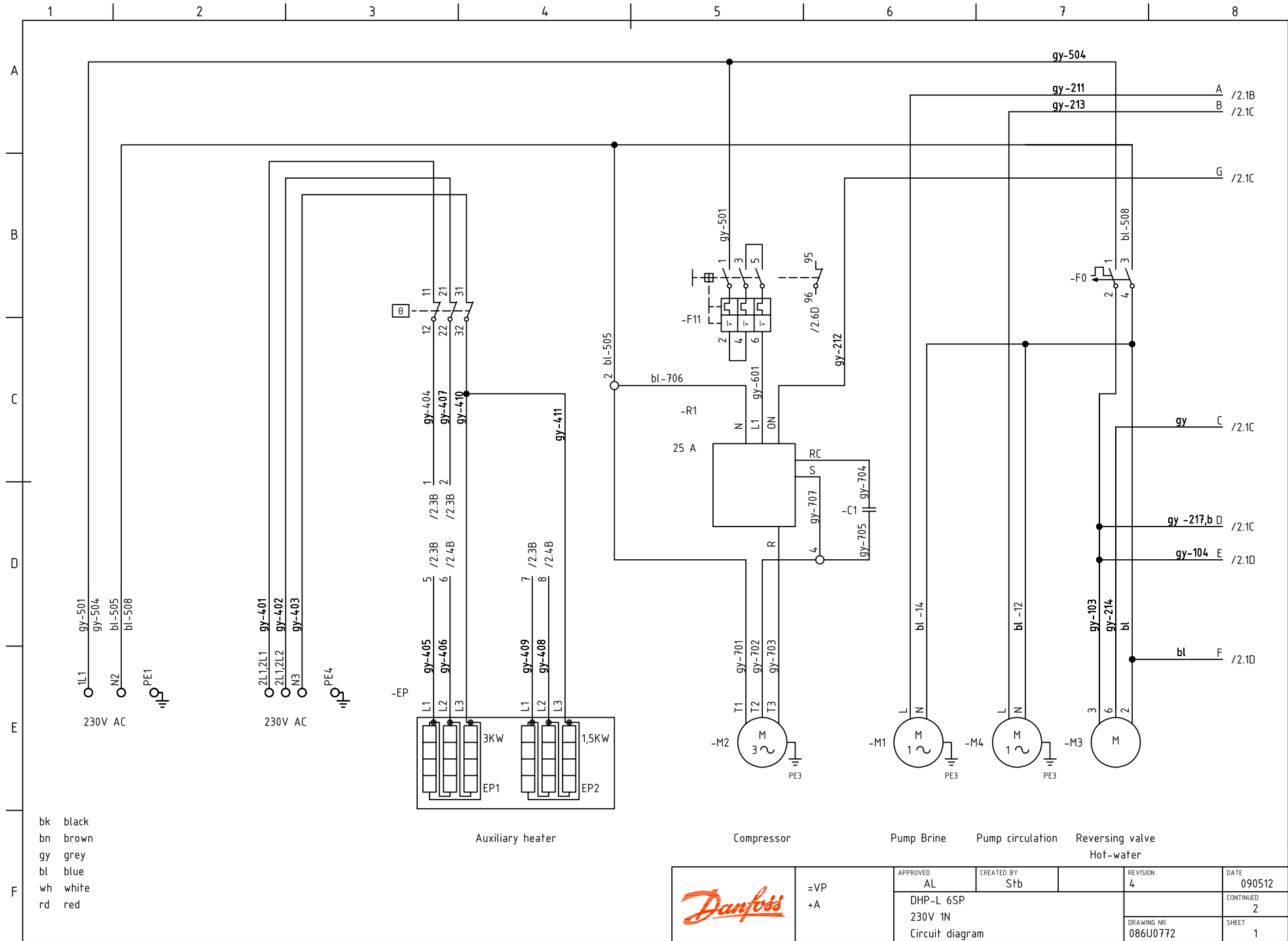
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bk black
 bn brown
 gy grey
 bl blue
 wh white
 rd red


Auxiliary heater

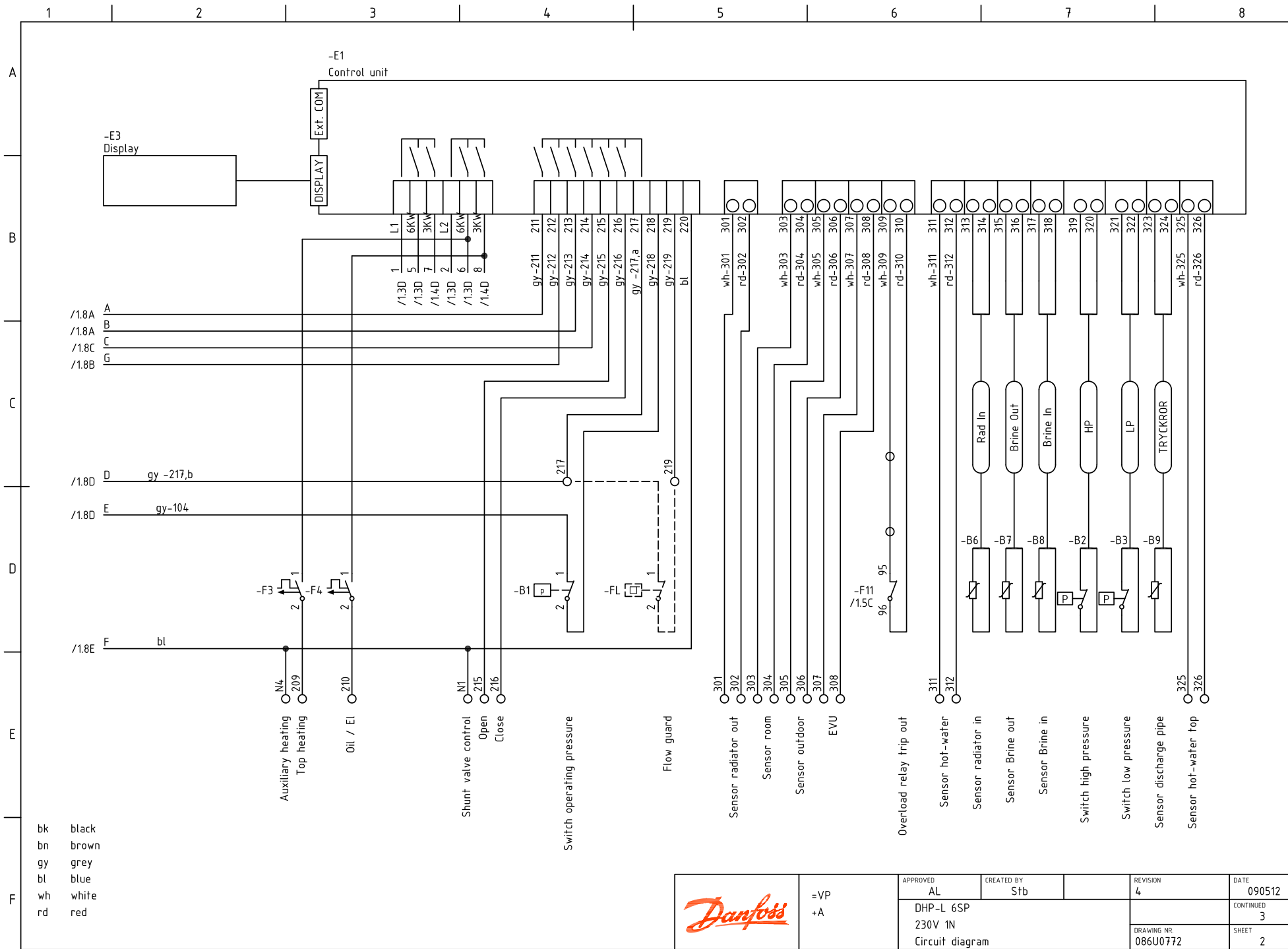
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Pump Brine

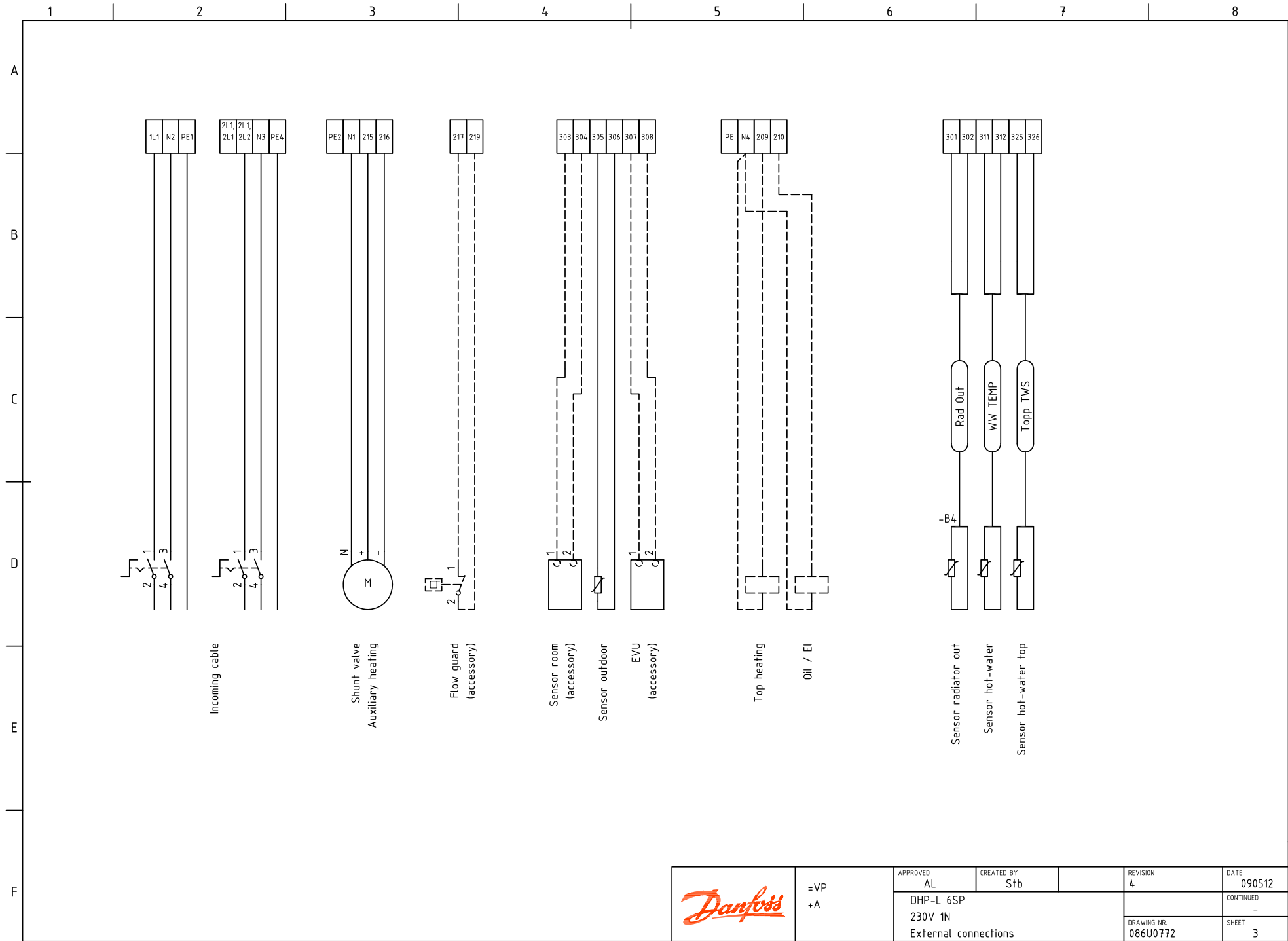
Pump circulation

Reversing valve
 Hot-water

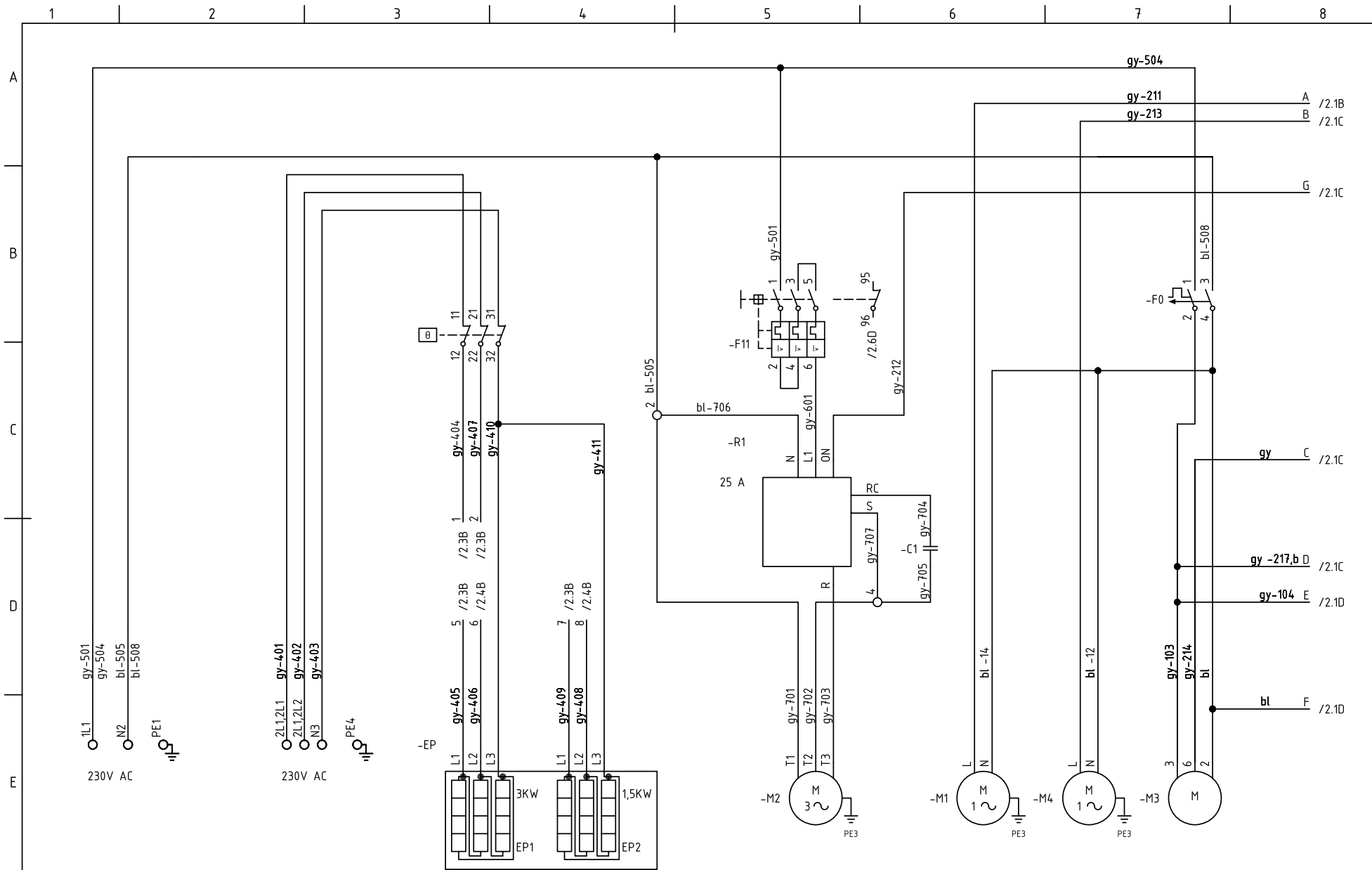
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- bk black
- bn brown
- gy grey
- bl blue
- wh white
- rd red


Auxiliary heater

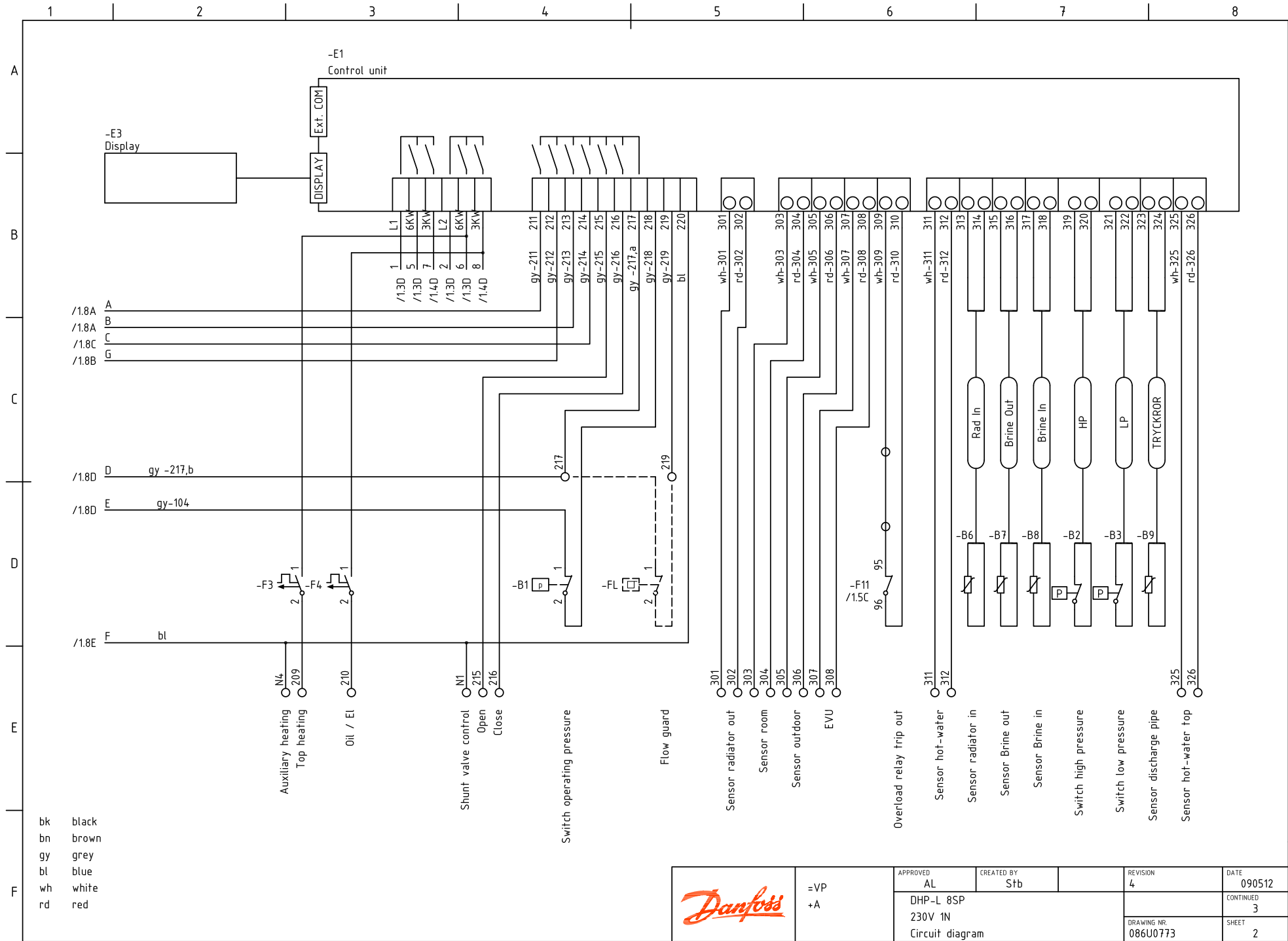
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Pump Brine

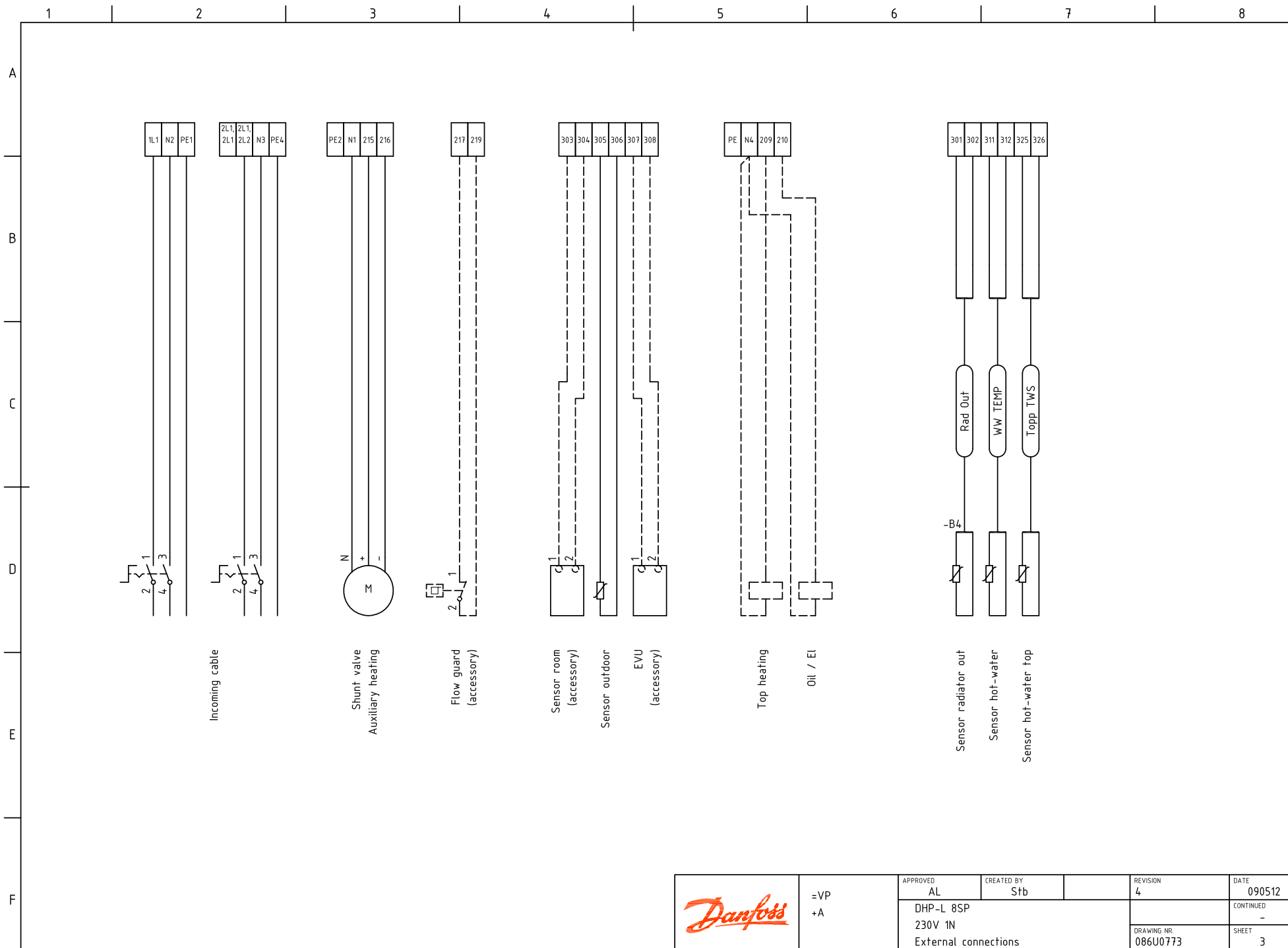
Pump circulation


Reversing valve
Hot-water

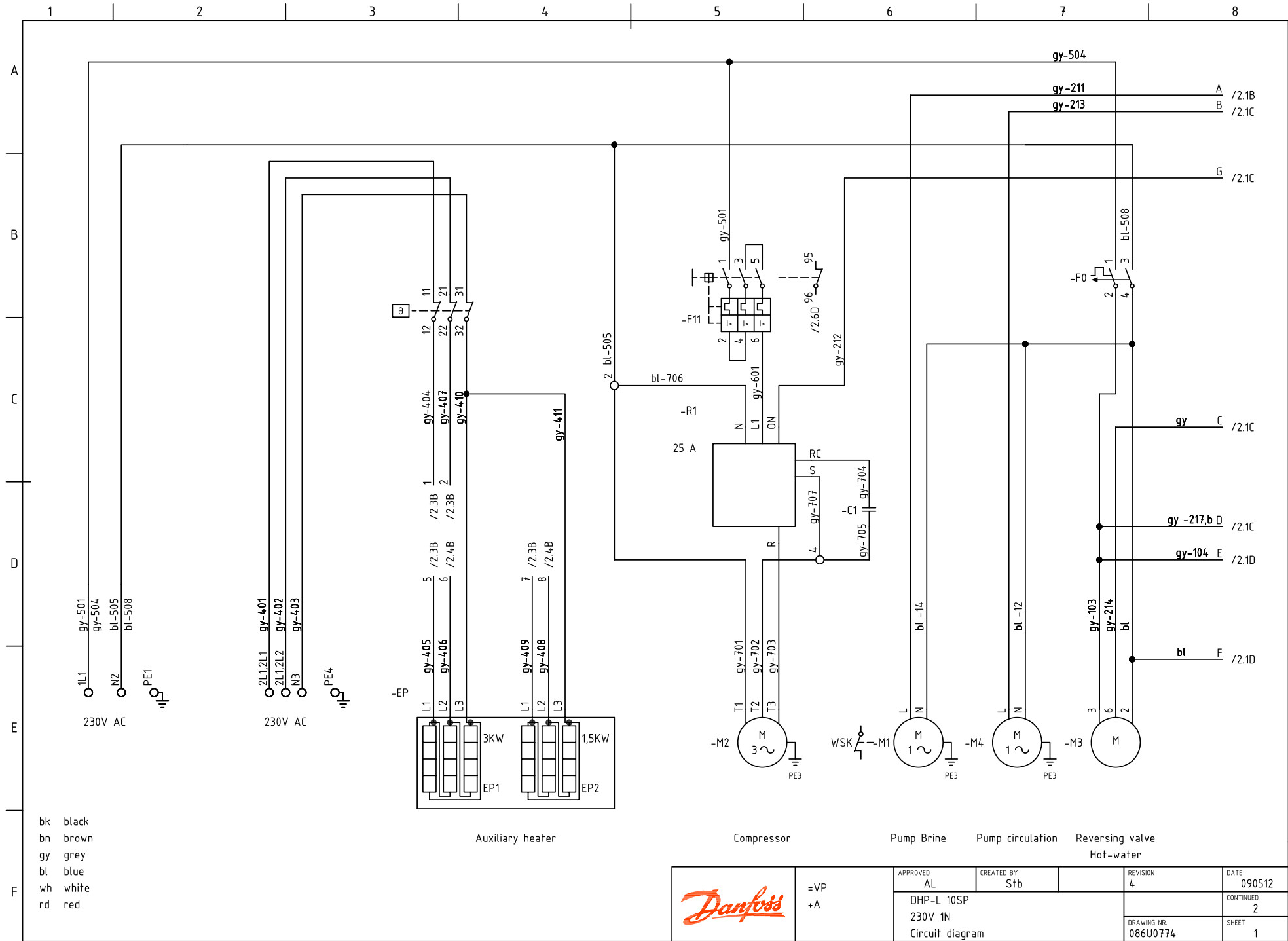
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					DRAWING NR. 086U0773	



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		DHP-L 8SP 230V 1N External connections				CONTINUED -
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bk black
 bn brown
 gy grey
 bl blue
 wh white
 rd red

Auxiliary heater

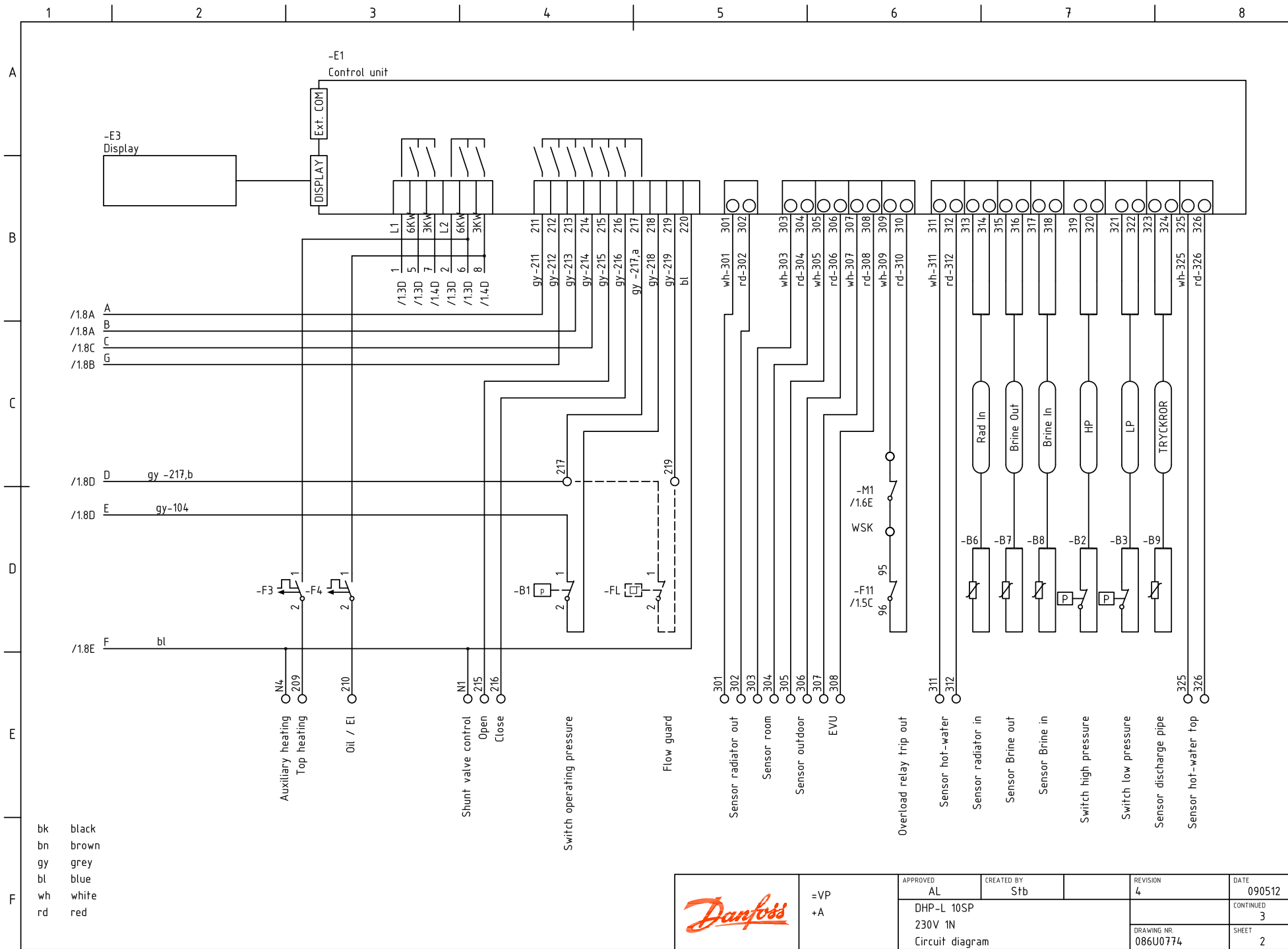
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Pump Brine

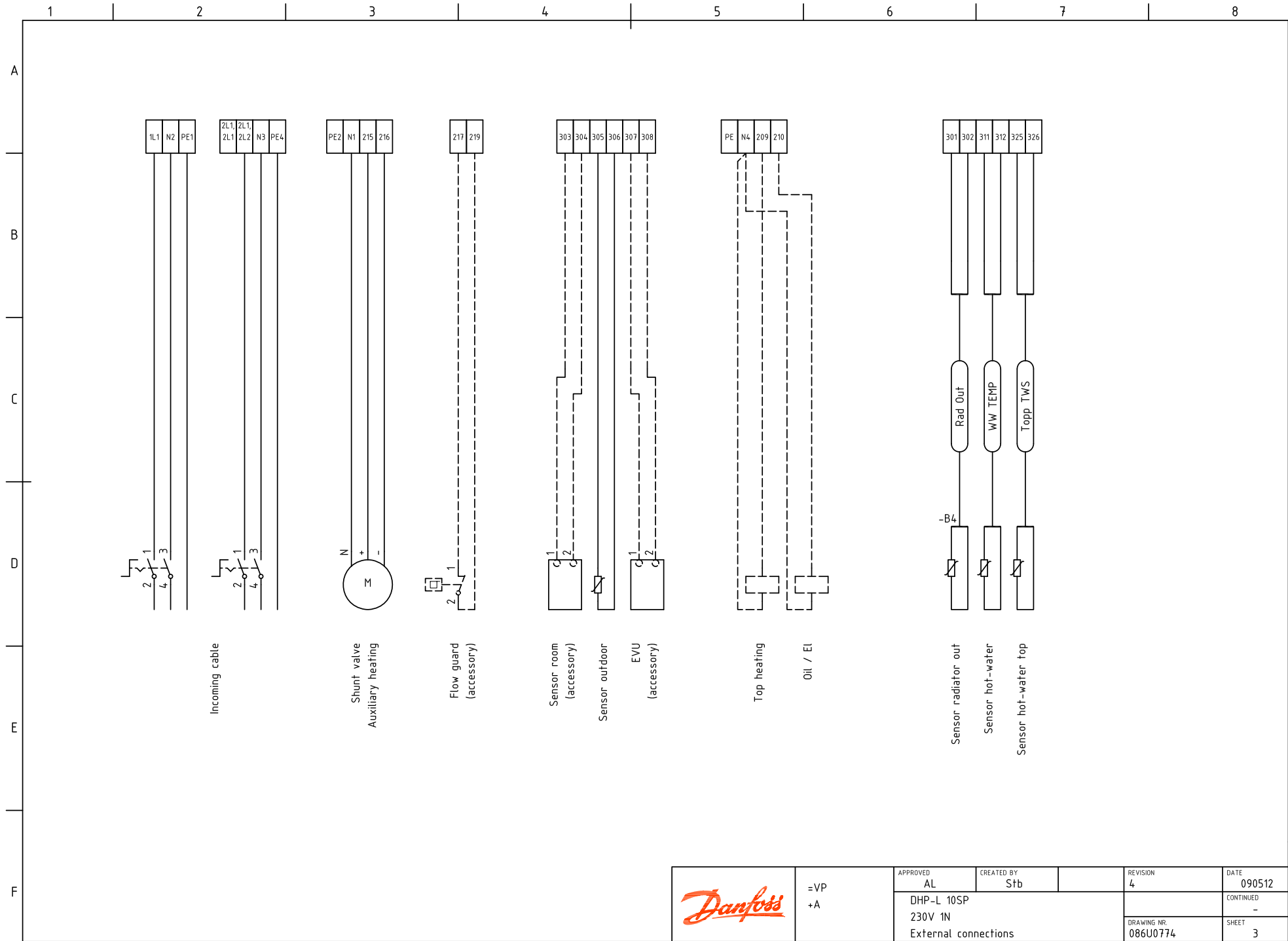
Pump circulation


Reversing valve
 Hot-water

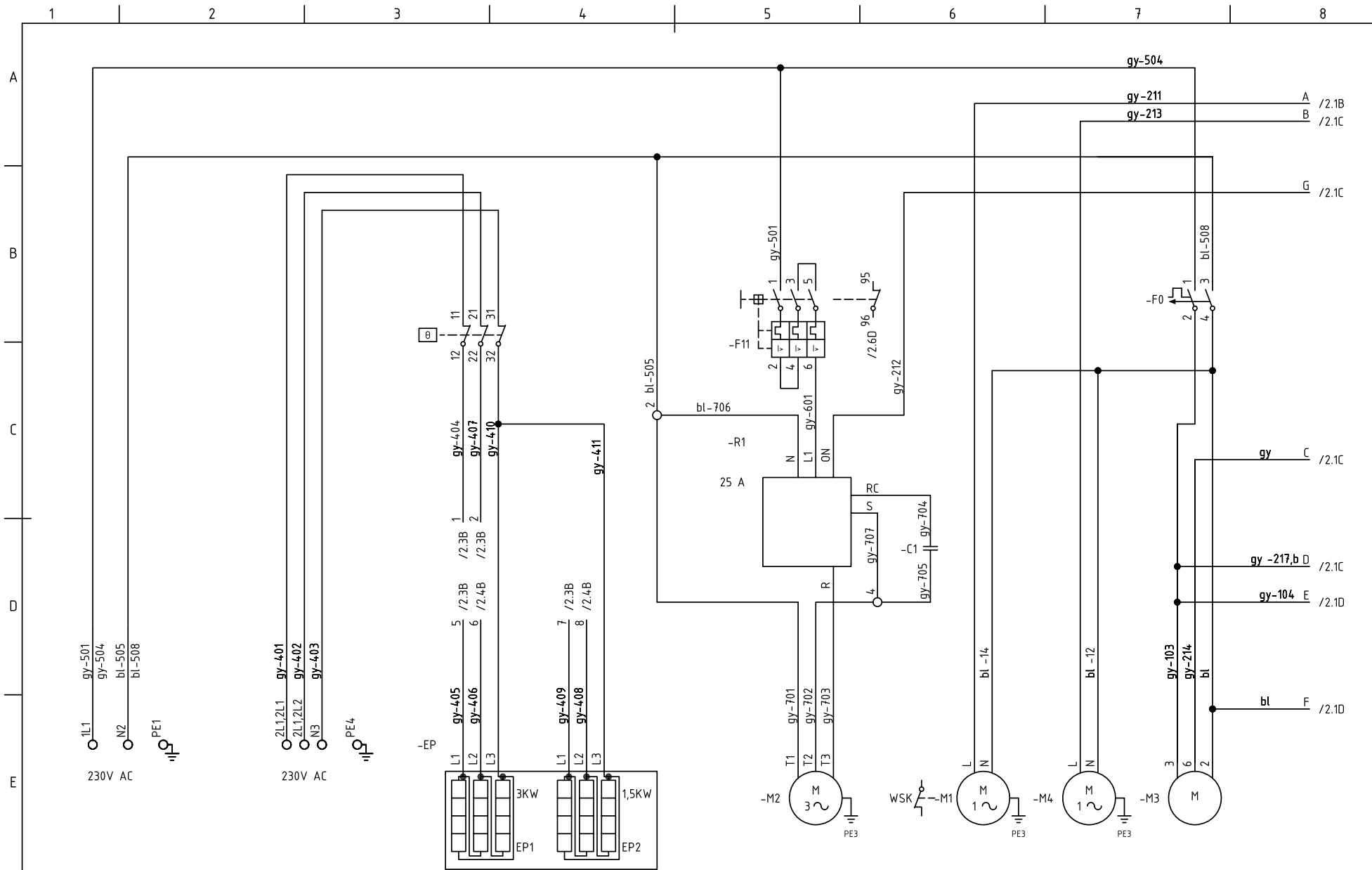
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	=VP +A	APPROVED AL	CREATED BY Stb	REVISION 4	DATE 090512	
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- bk black
- bn brown
- gy grey
- bl blue
- wh white
- rd red


Auxiliary heater

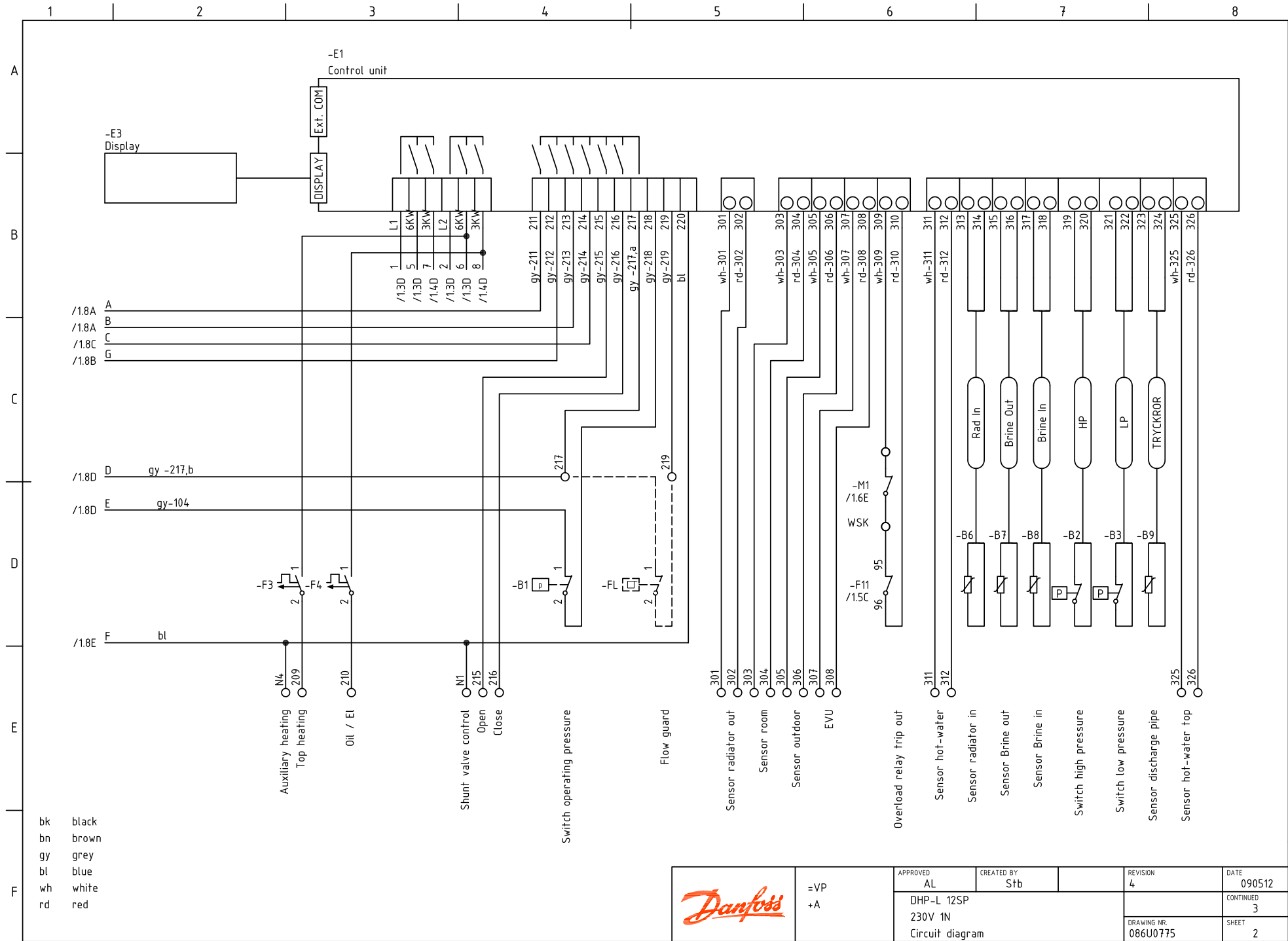
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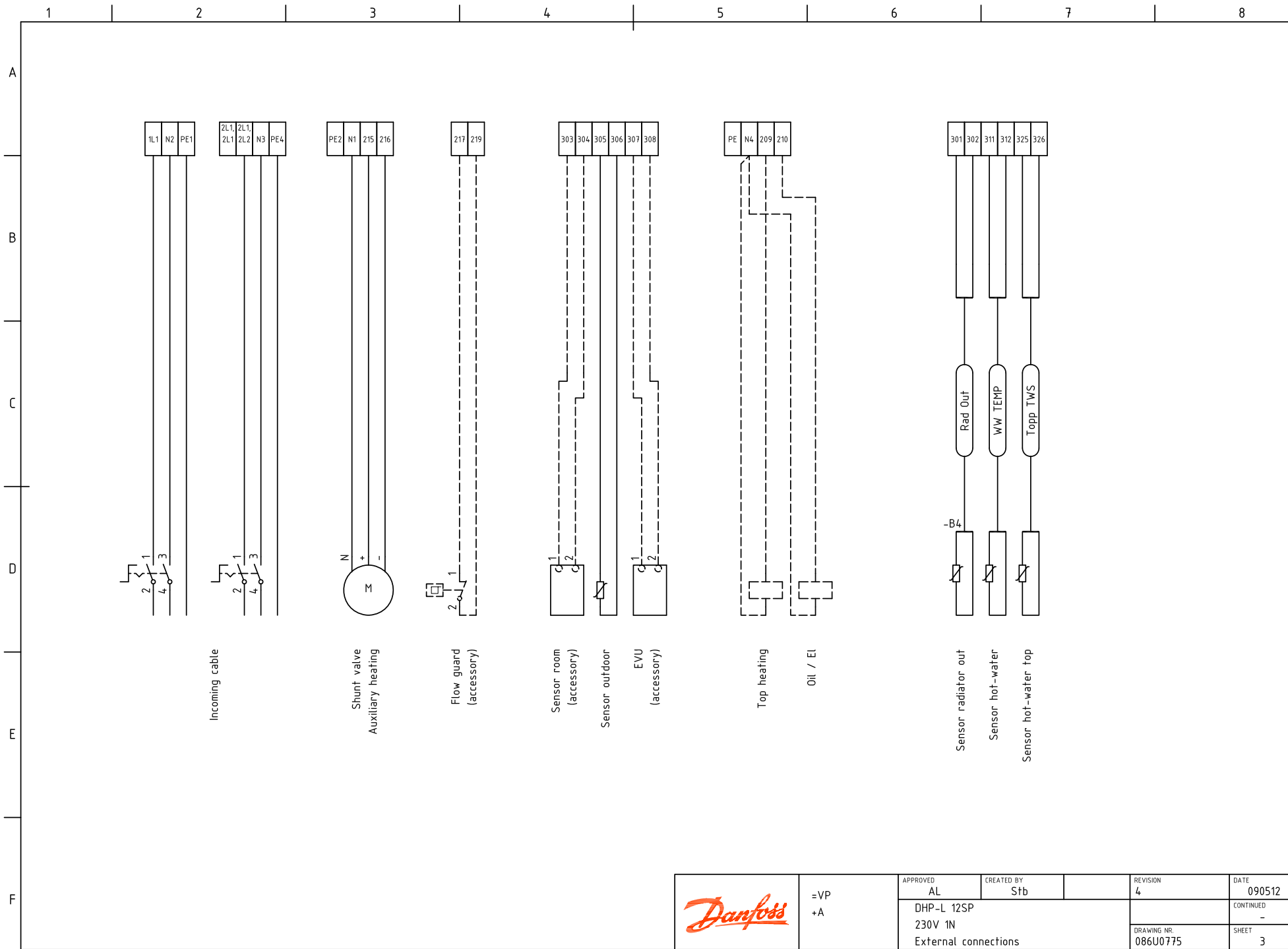
Pump Brine


Pump circulation

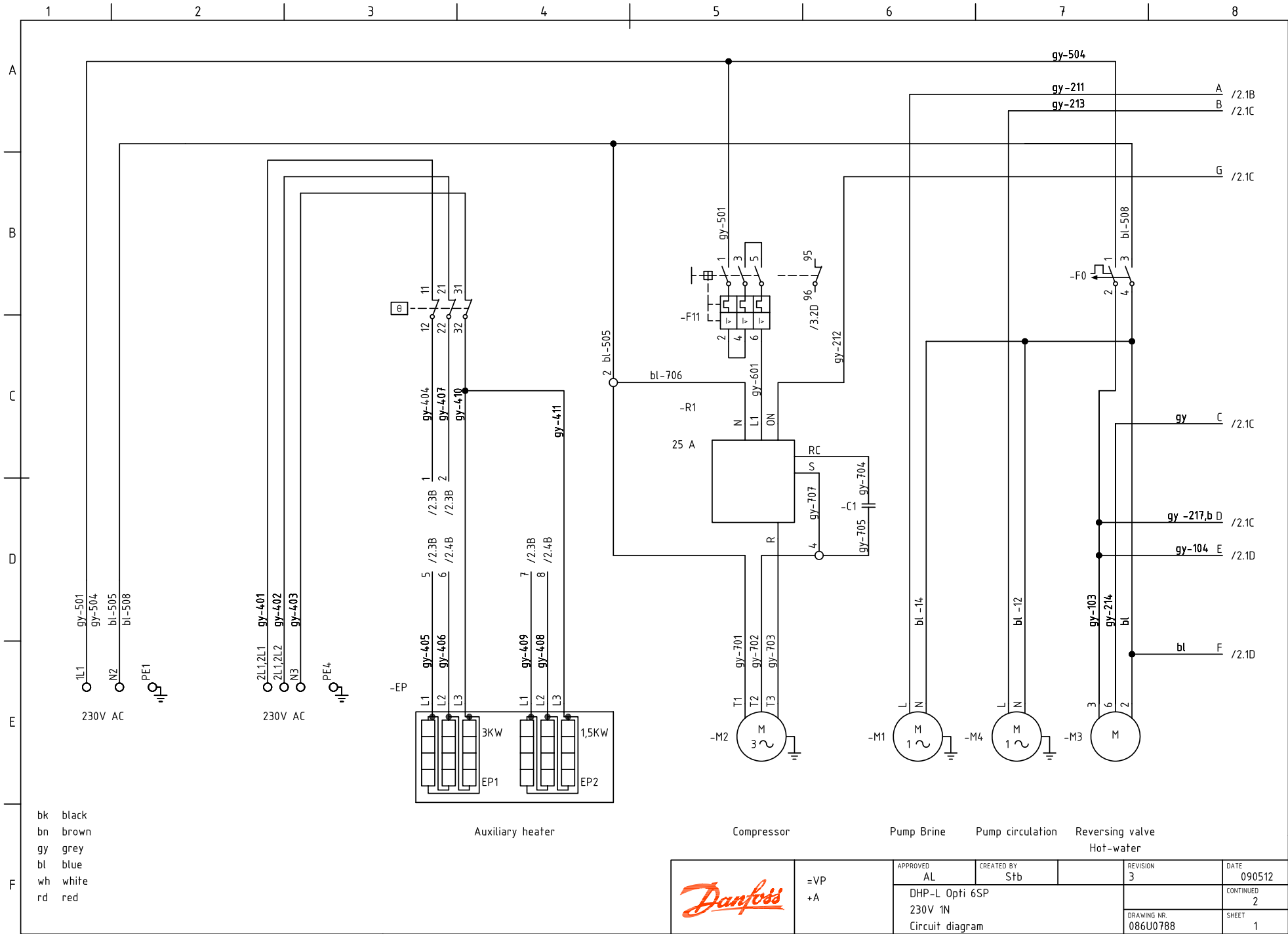
Reversing valve
Hot-water

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		230V 1N				SHEET 3
External connections				DRAWING NR. 086U0775		



- bk black
- bn brown
- gy grey
- bl blue
- wh white
- rd red

Auxiliary heater

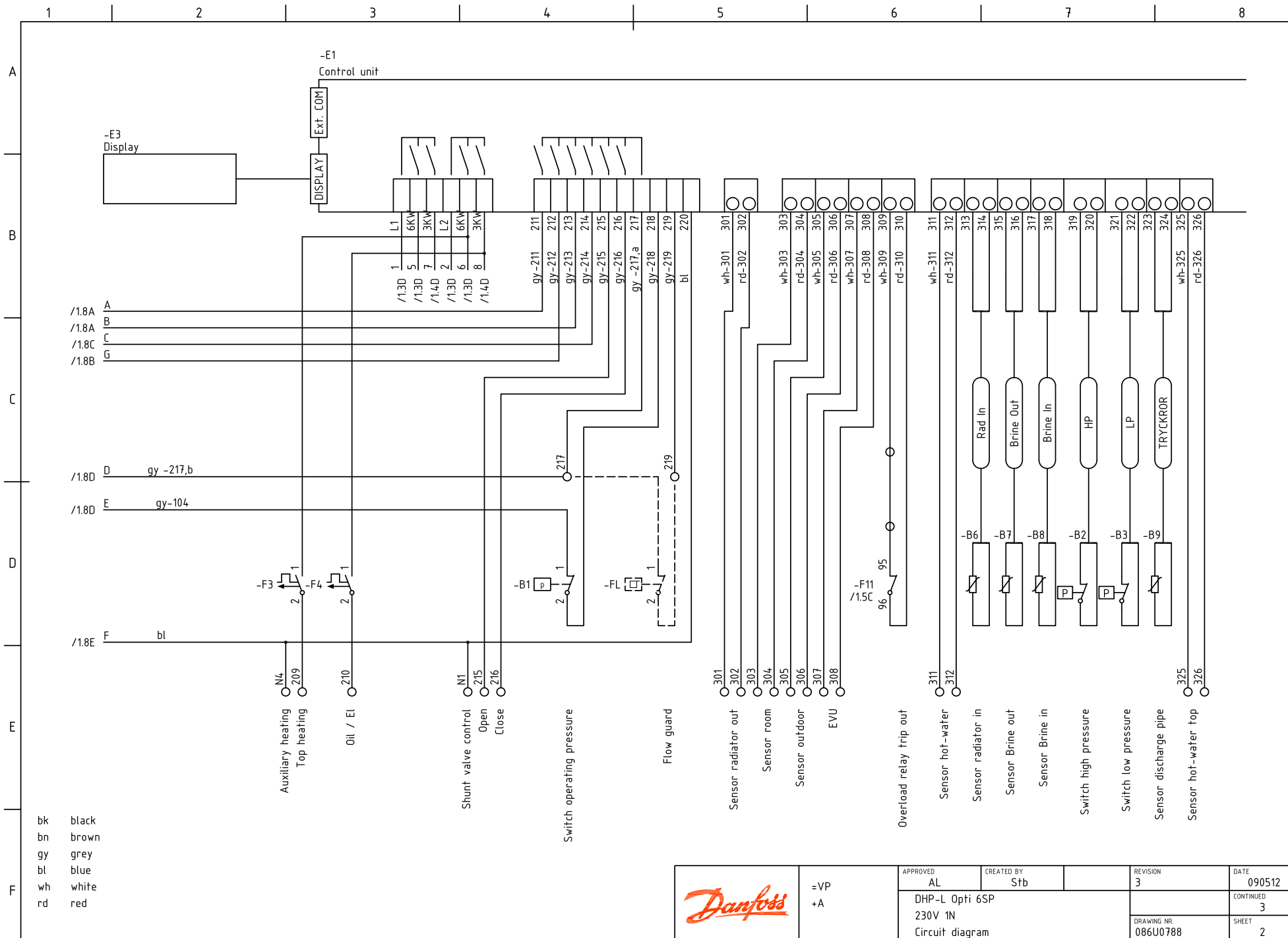
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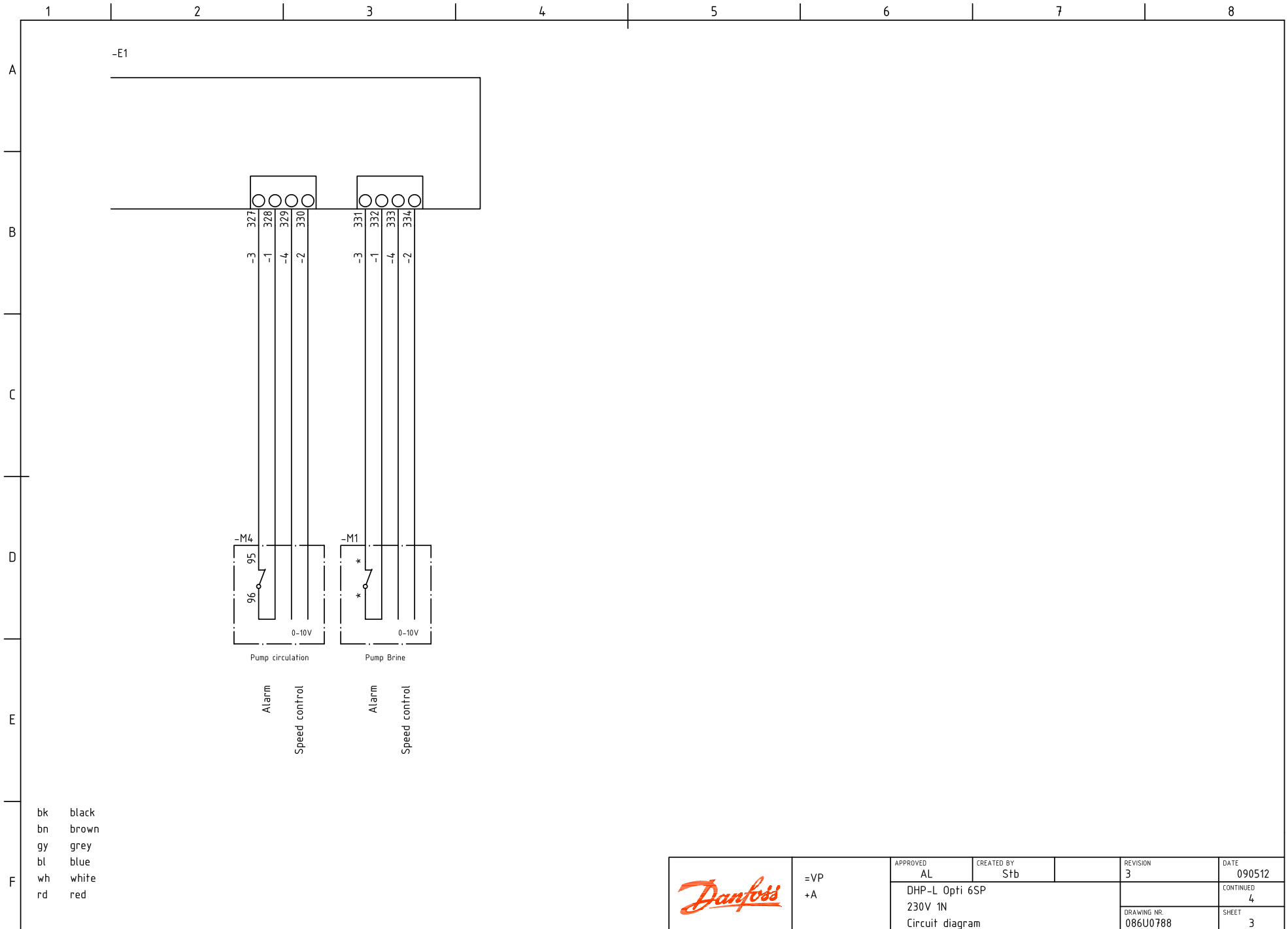
Pump Brine

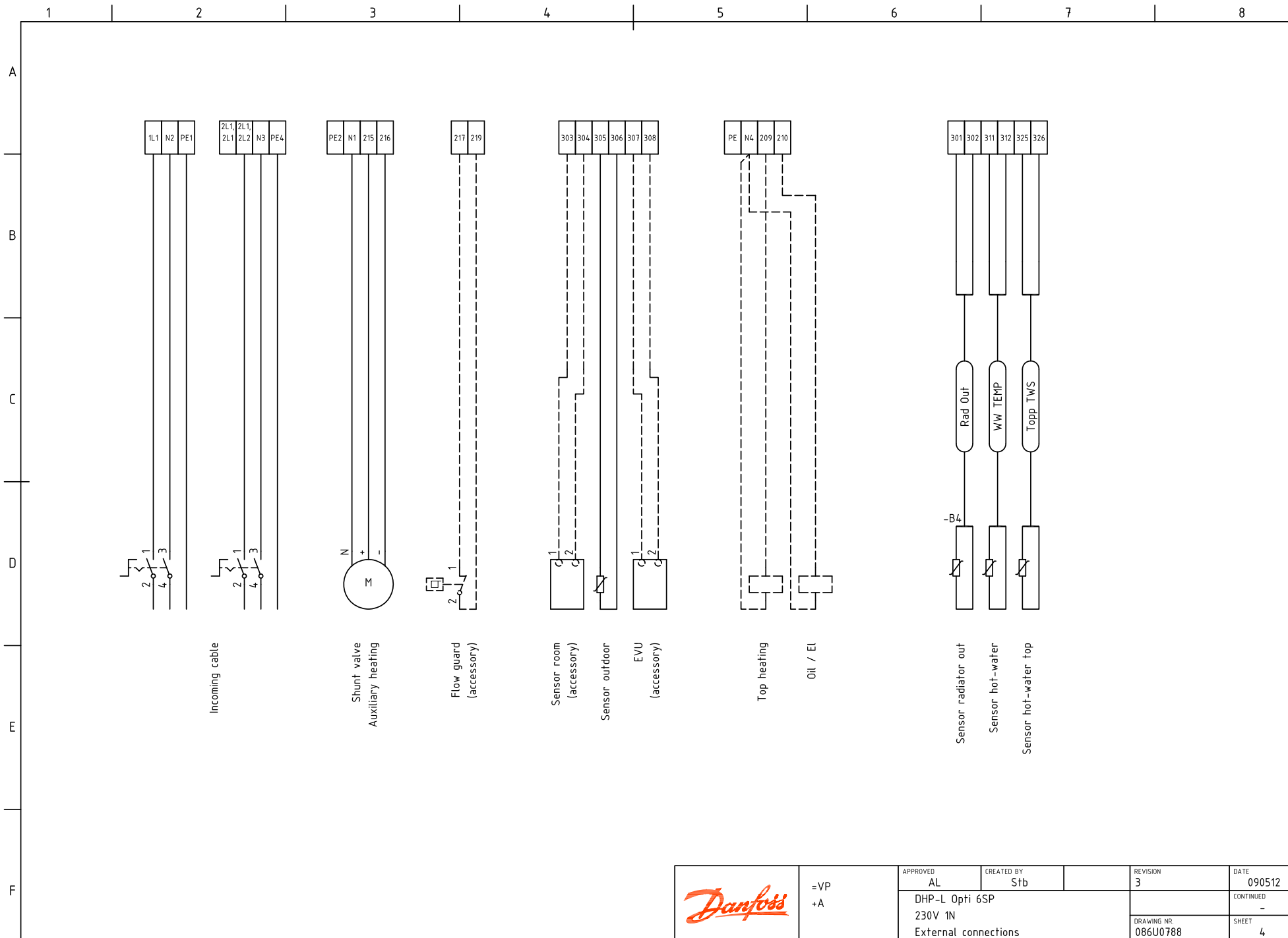
Pump circulation

Reversing valve
Hot-water

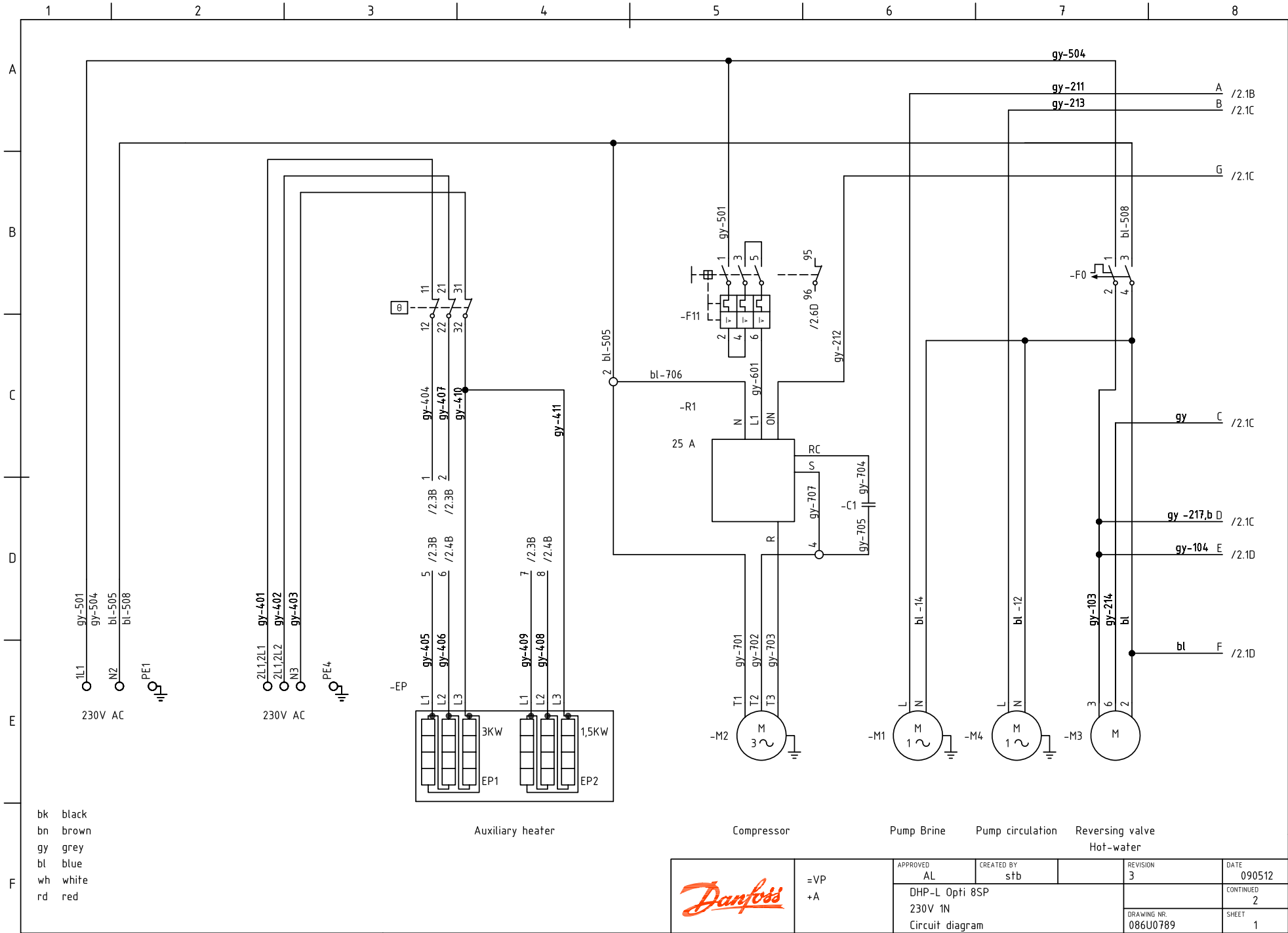
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bk black
 bn brown
 gy grey
 bl blue
 wh white
 rd red


Auxiliary heater

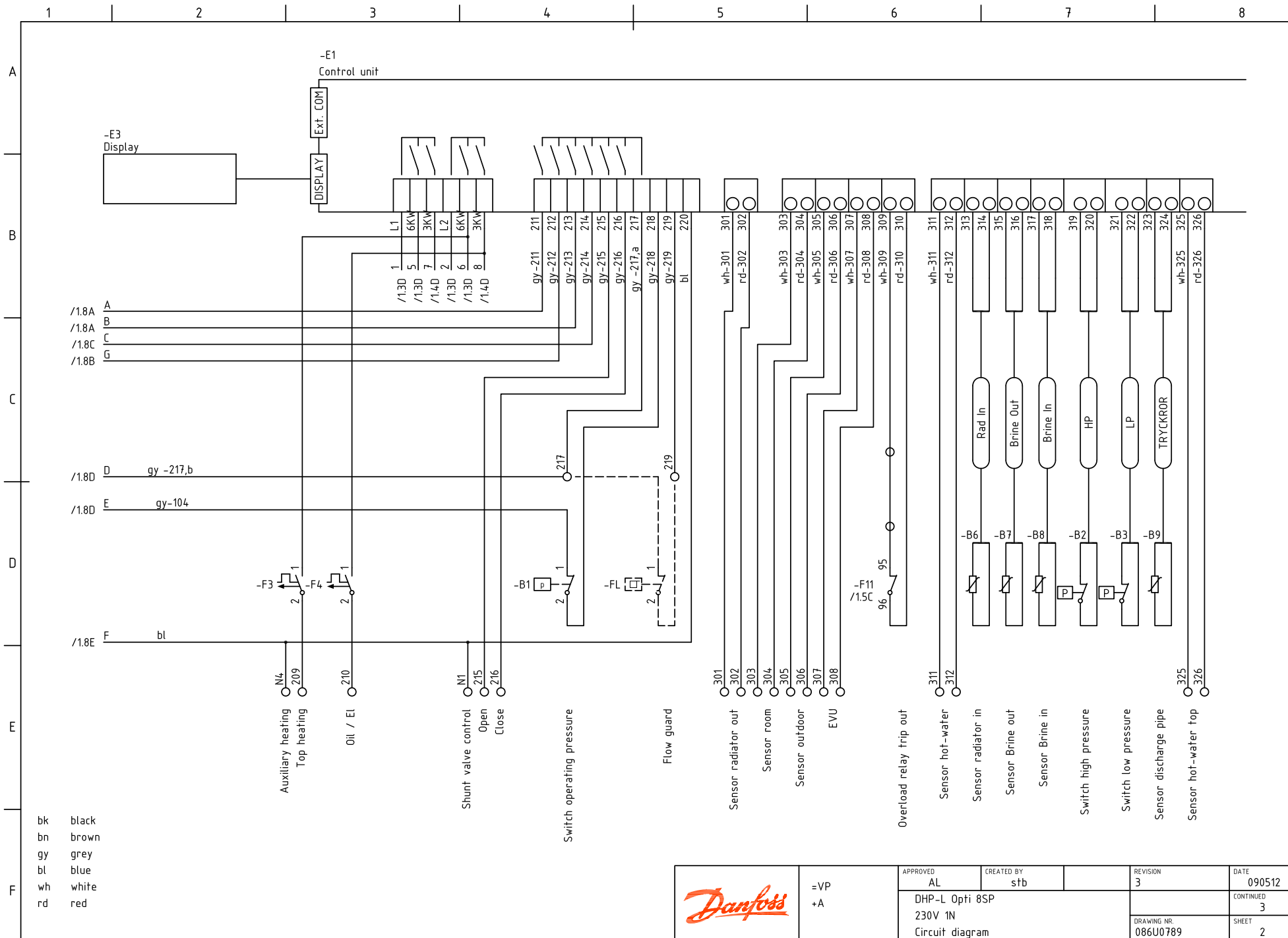
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Pump Brine

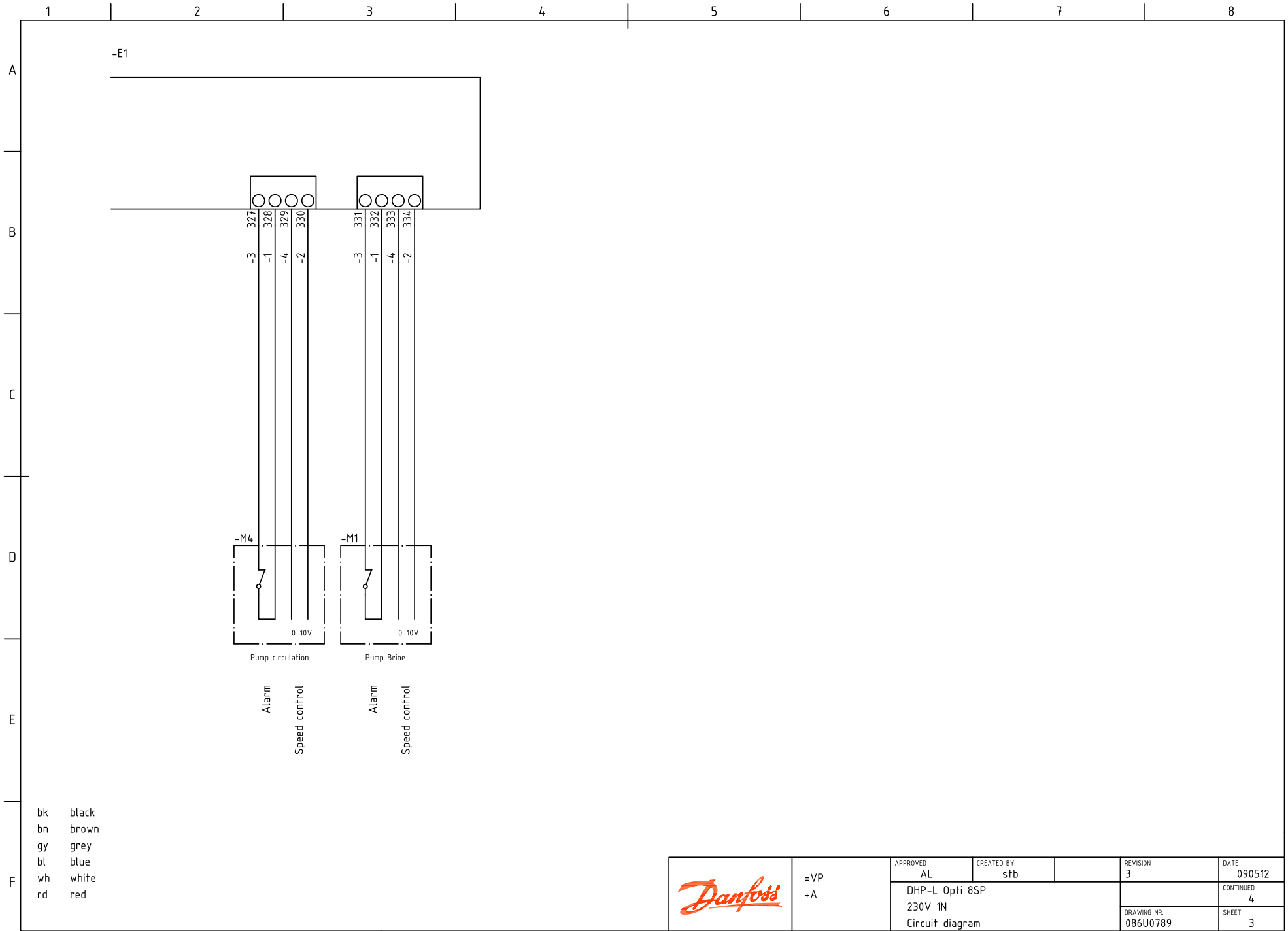
Pump circulation

Reversing valve
 Hot-water


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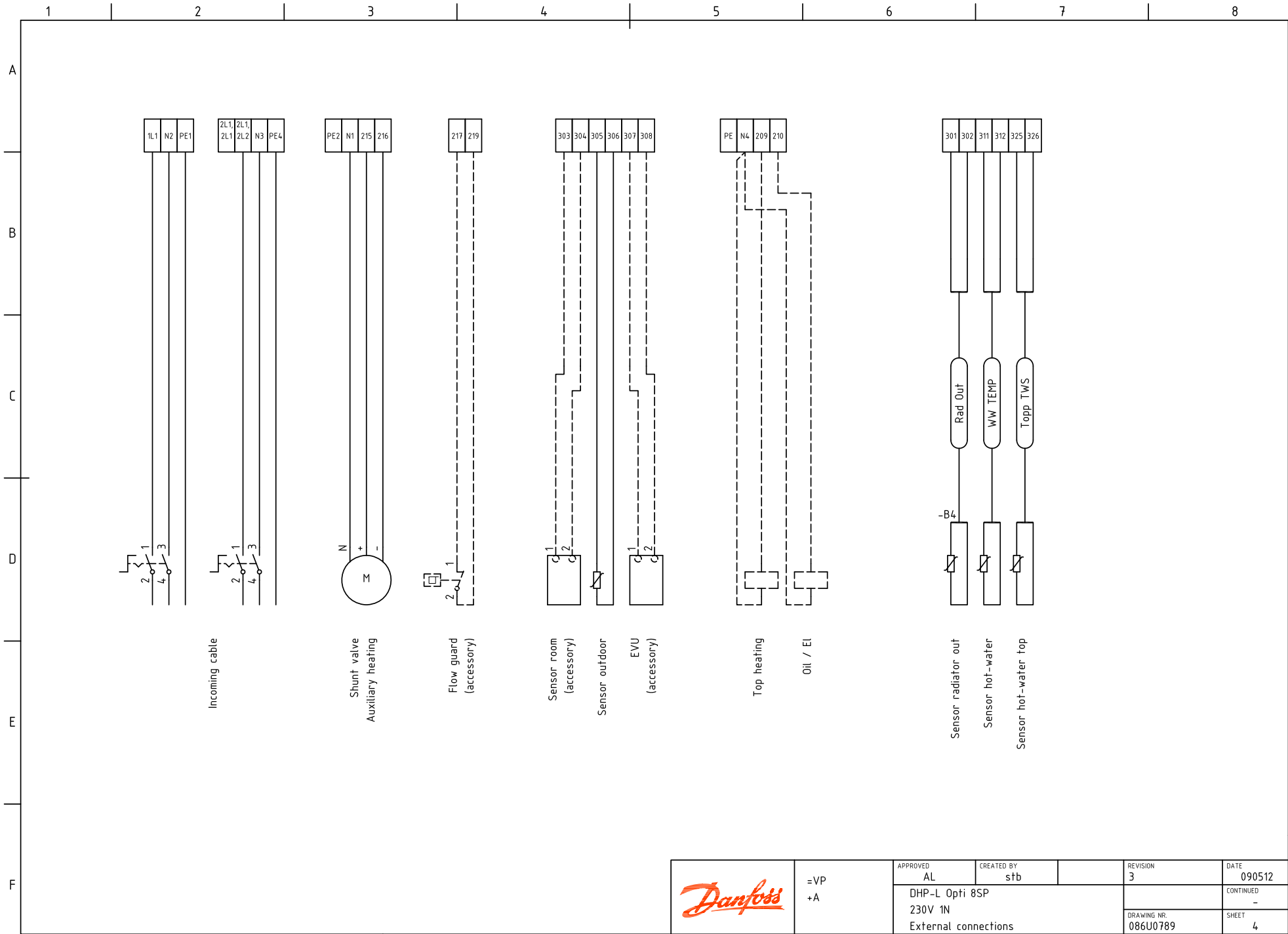



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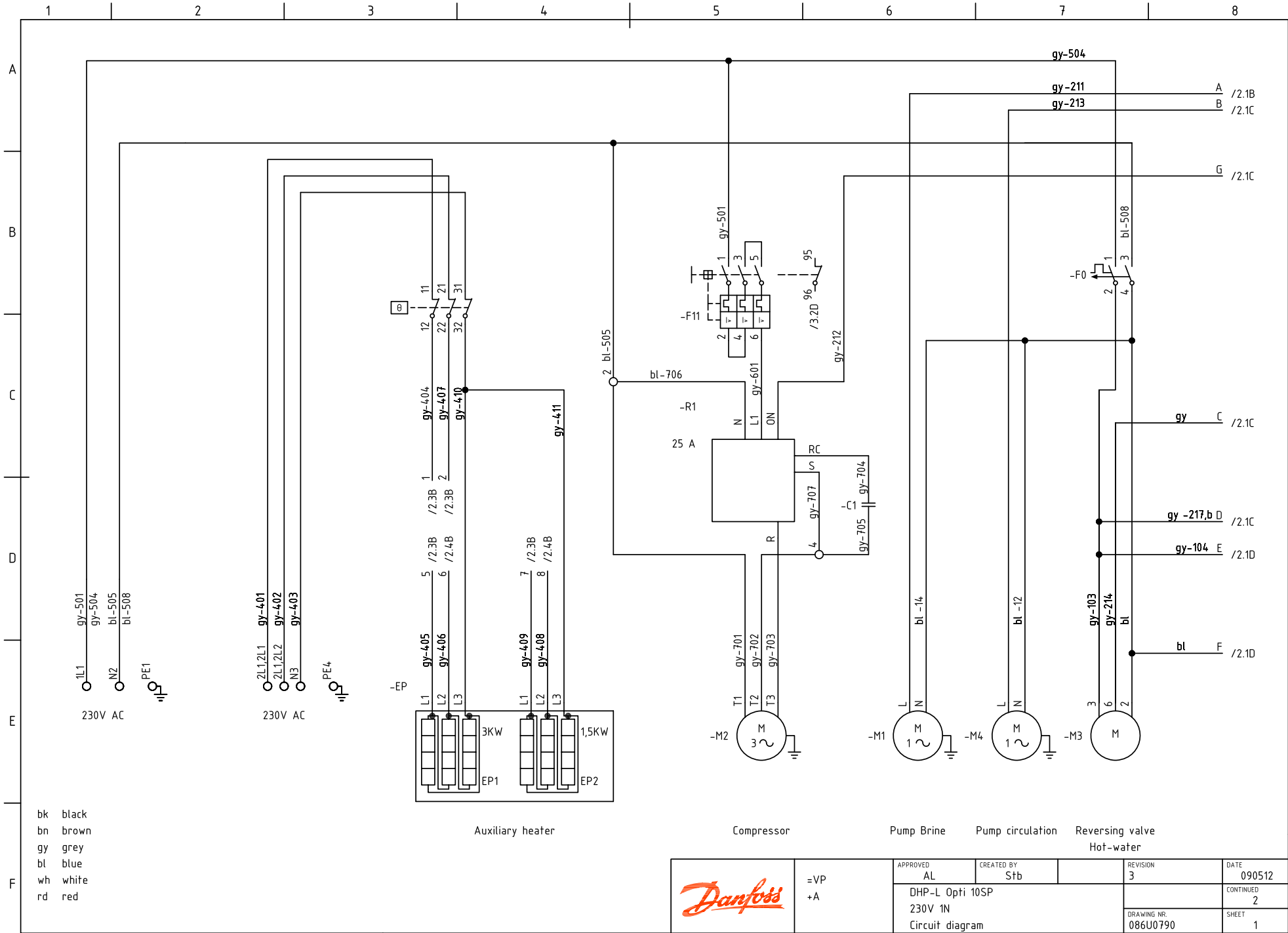


- bk black
- bn brown
- gy grey
- bl blue
- wh white
- rd red

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		DHP-L Opti 8SP 230V 1N External connections			
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bk black
 bn brown
 gy grey
 bl blue
 wh white
 rd red


Auxiliary heater

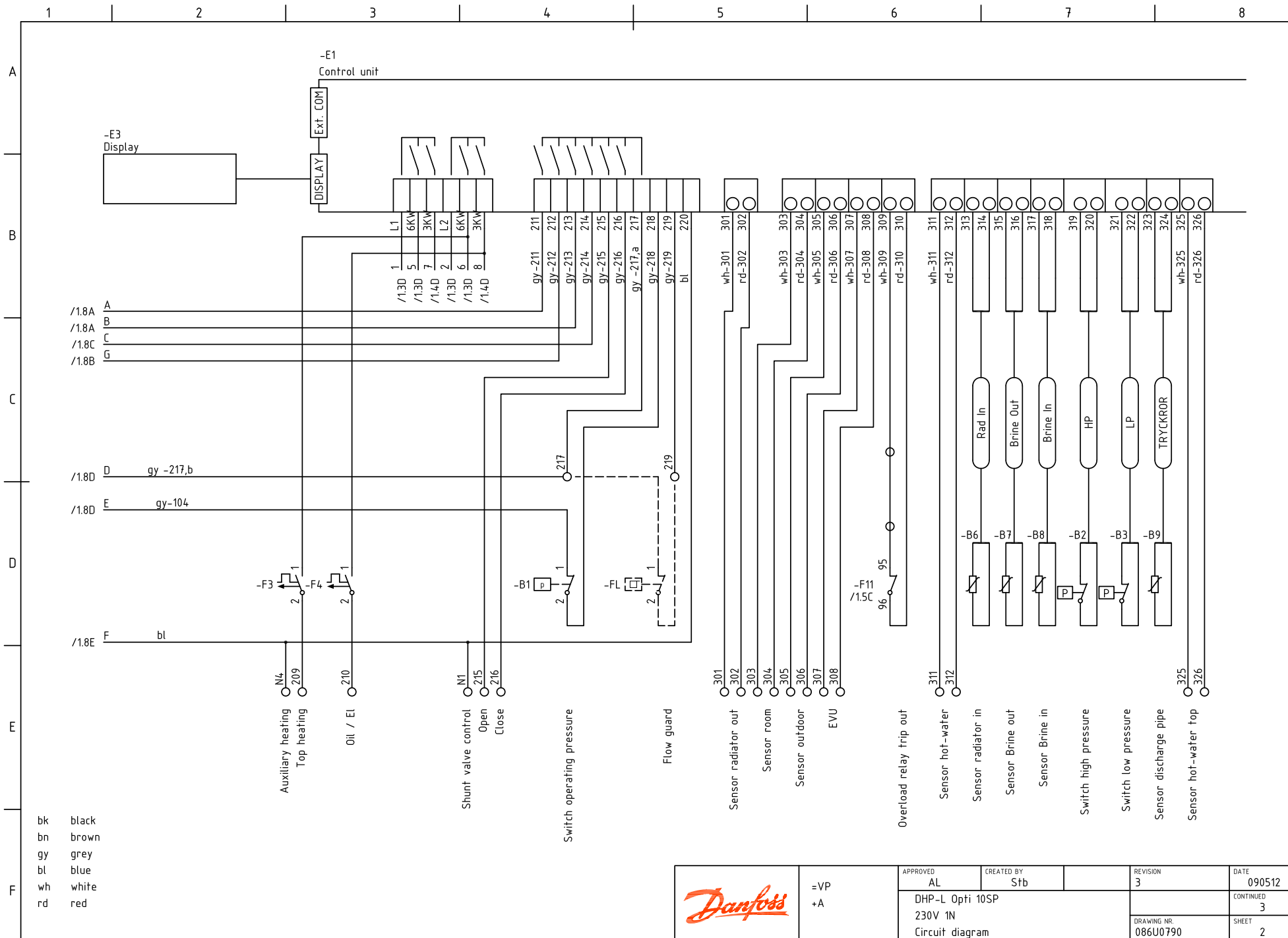
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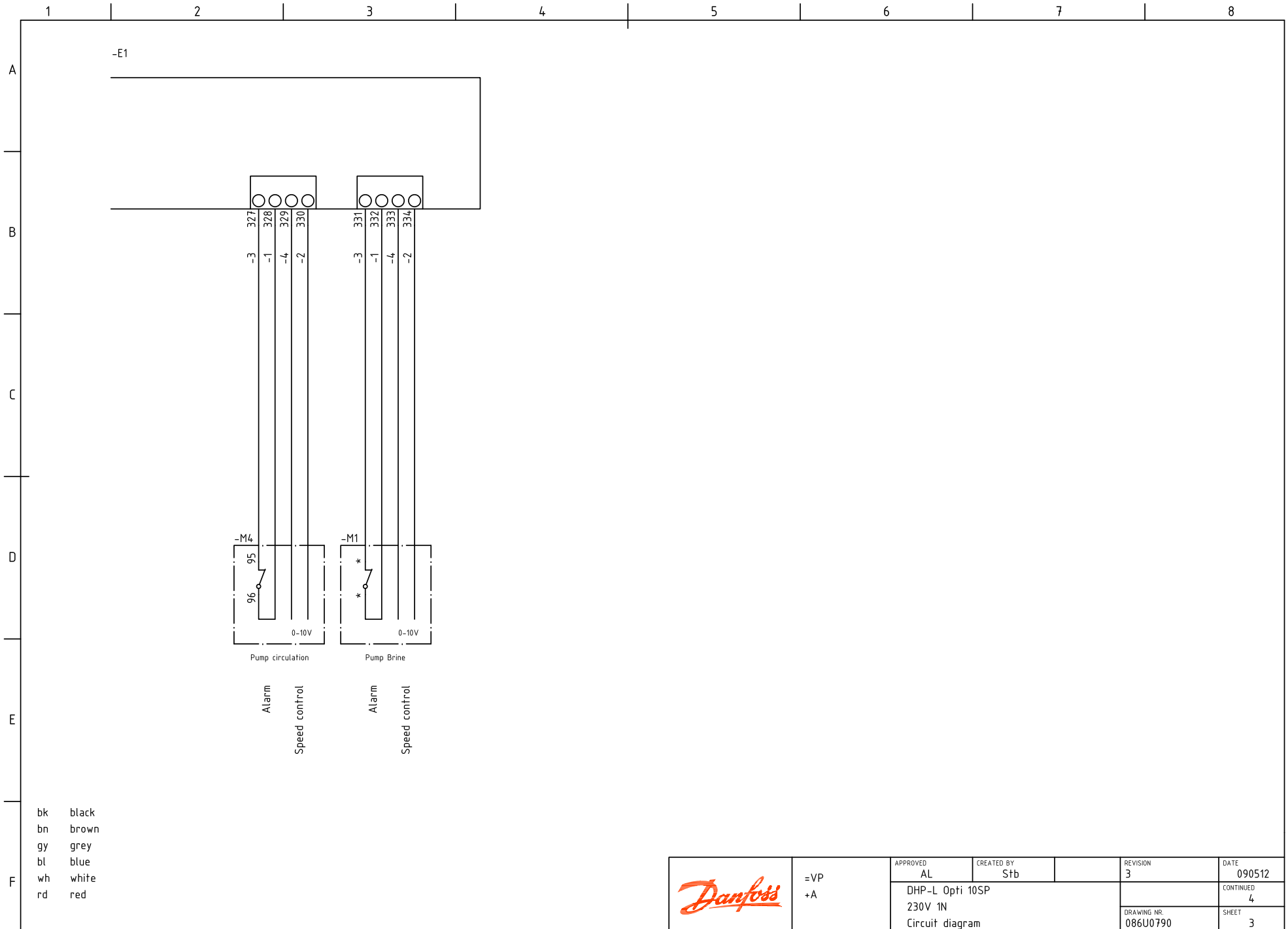
Pump Brine

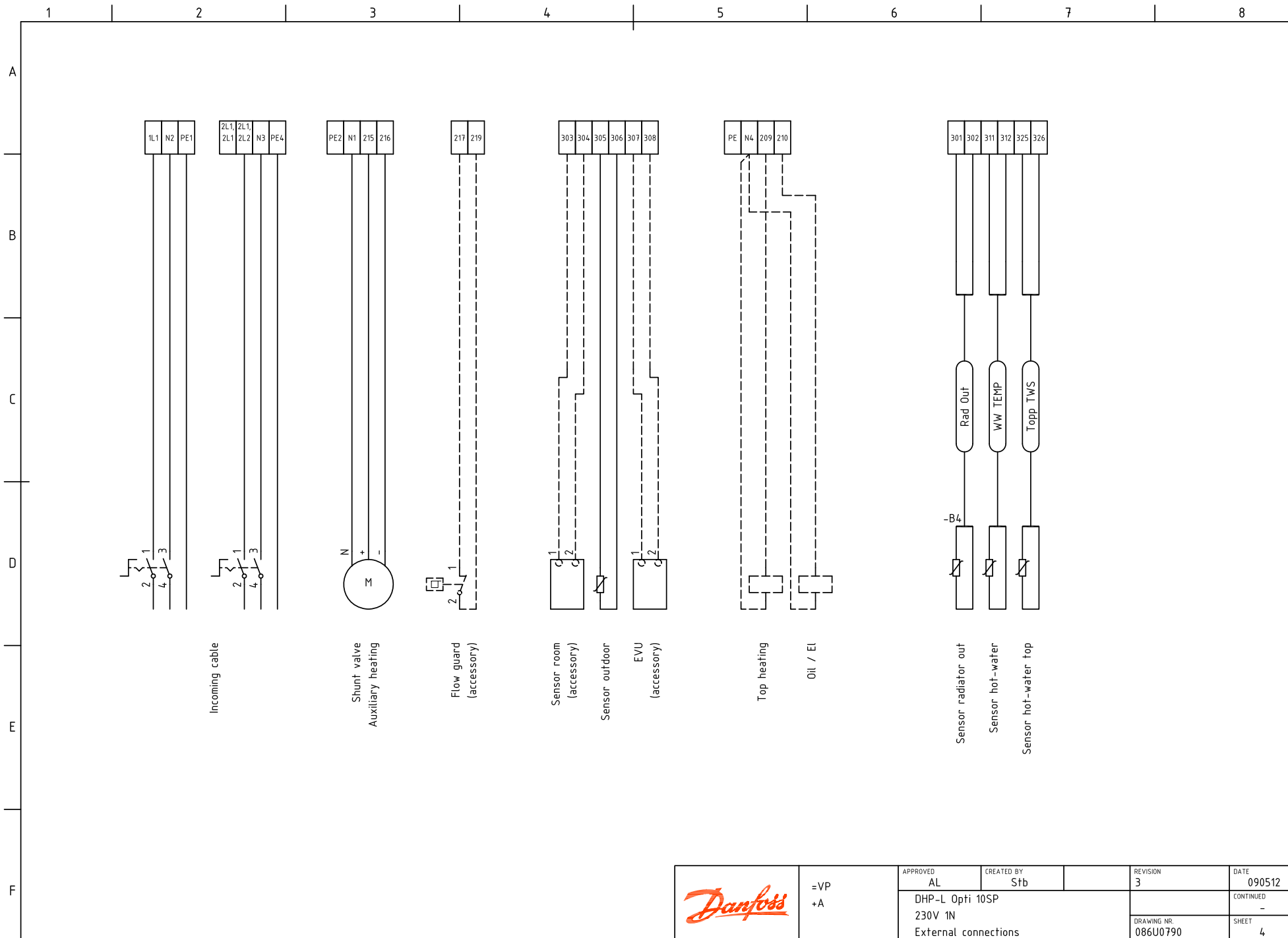
Pump circulation


Reversing valve
 Hot-water

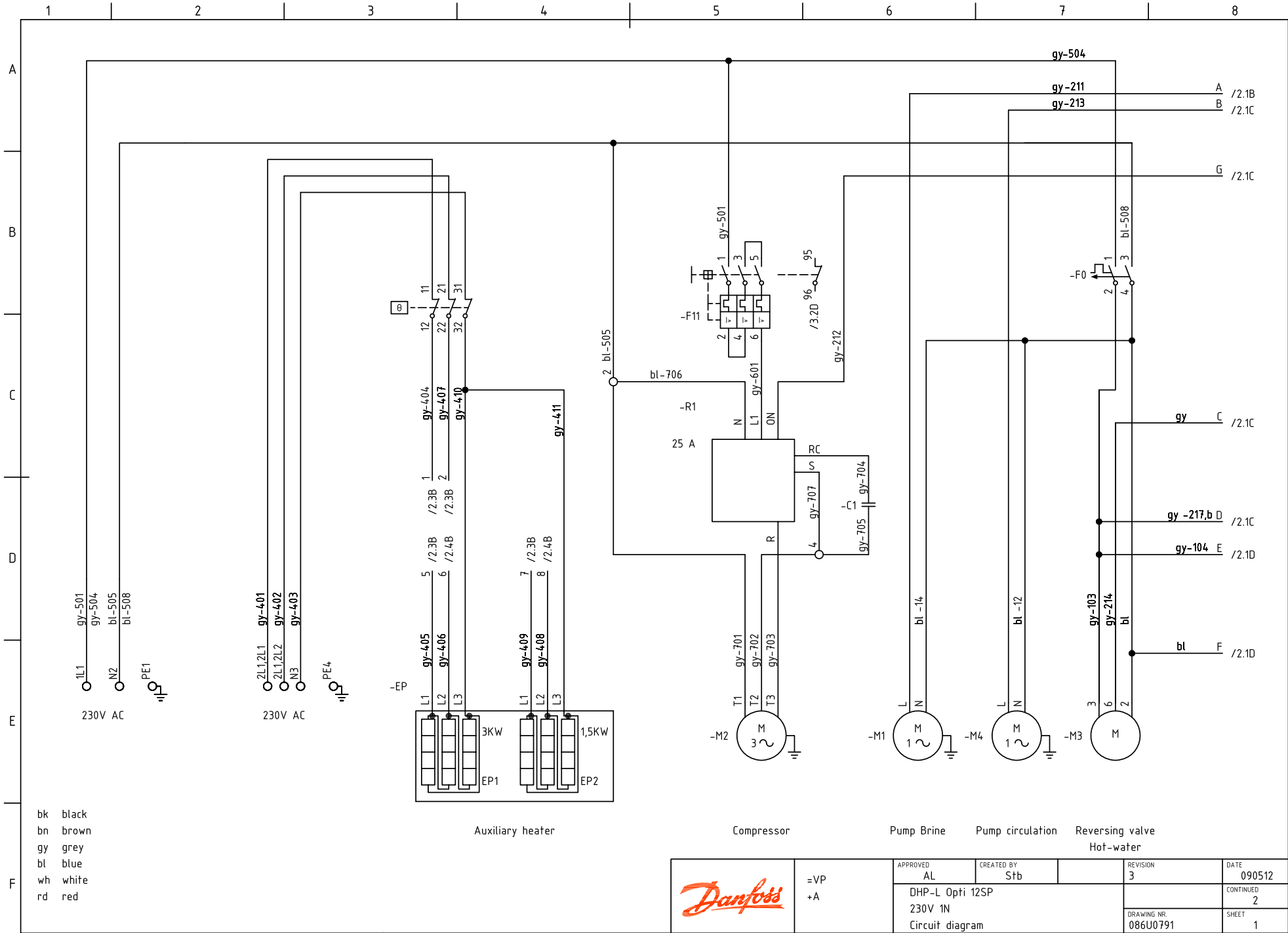
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		DHP-L Opti 10SP 230V 1N External connections			
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- bk black
- bn brown
- gy grey
- bl blue
- wh white
- rd red

Auxiliary heater

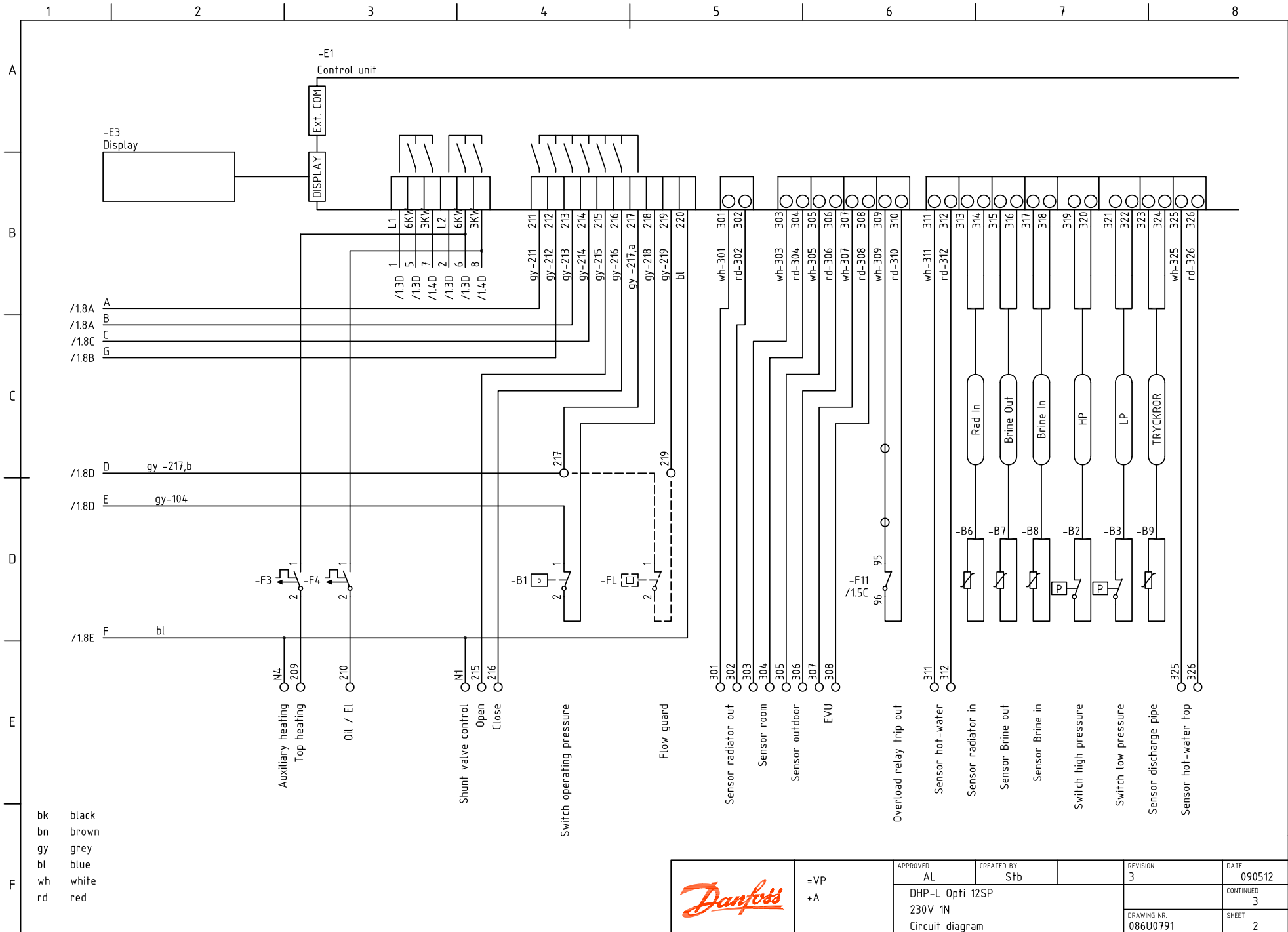
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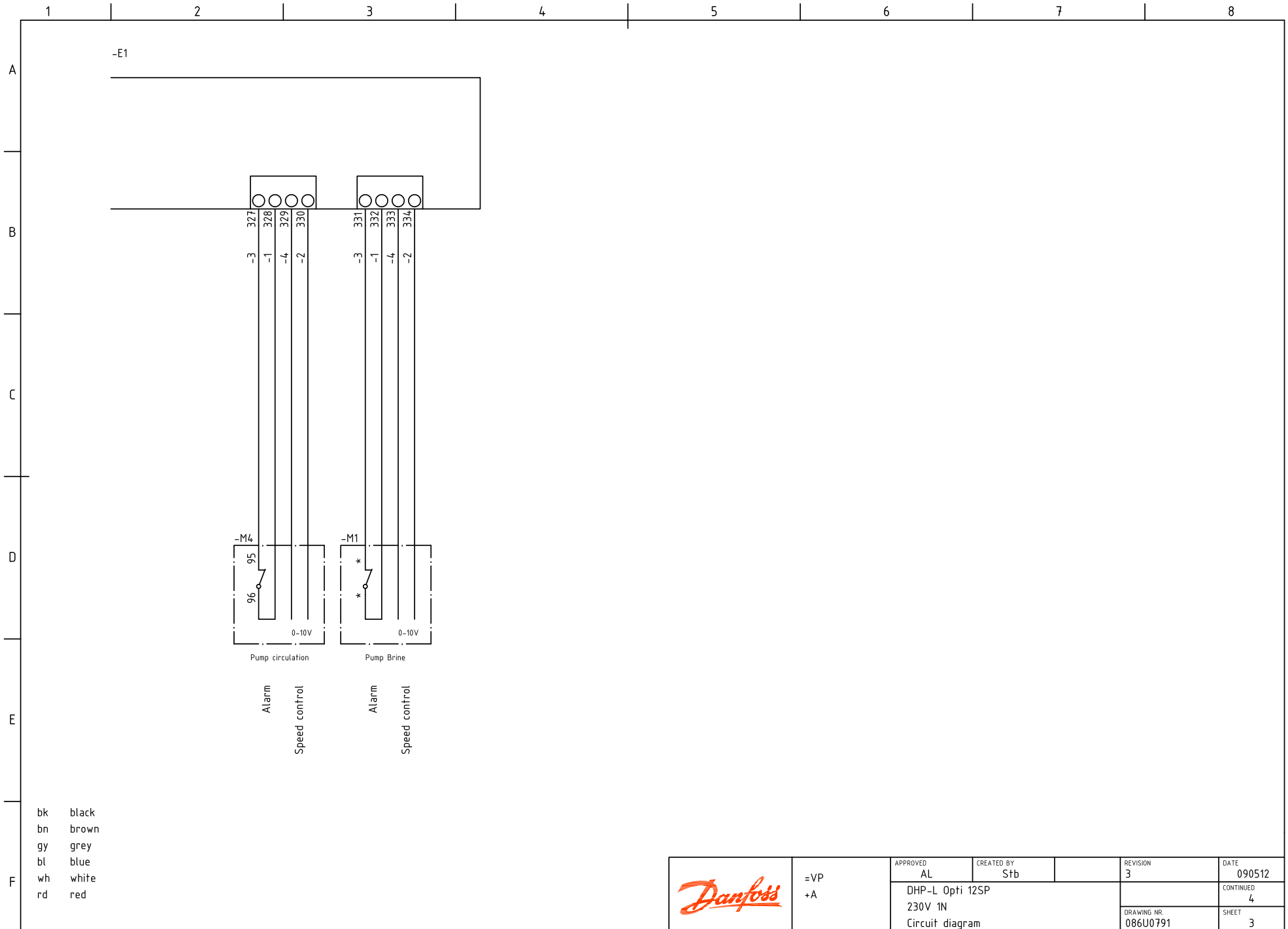
Pump Brine

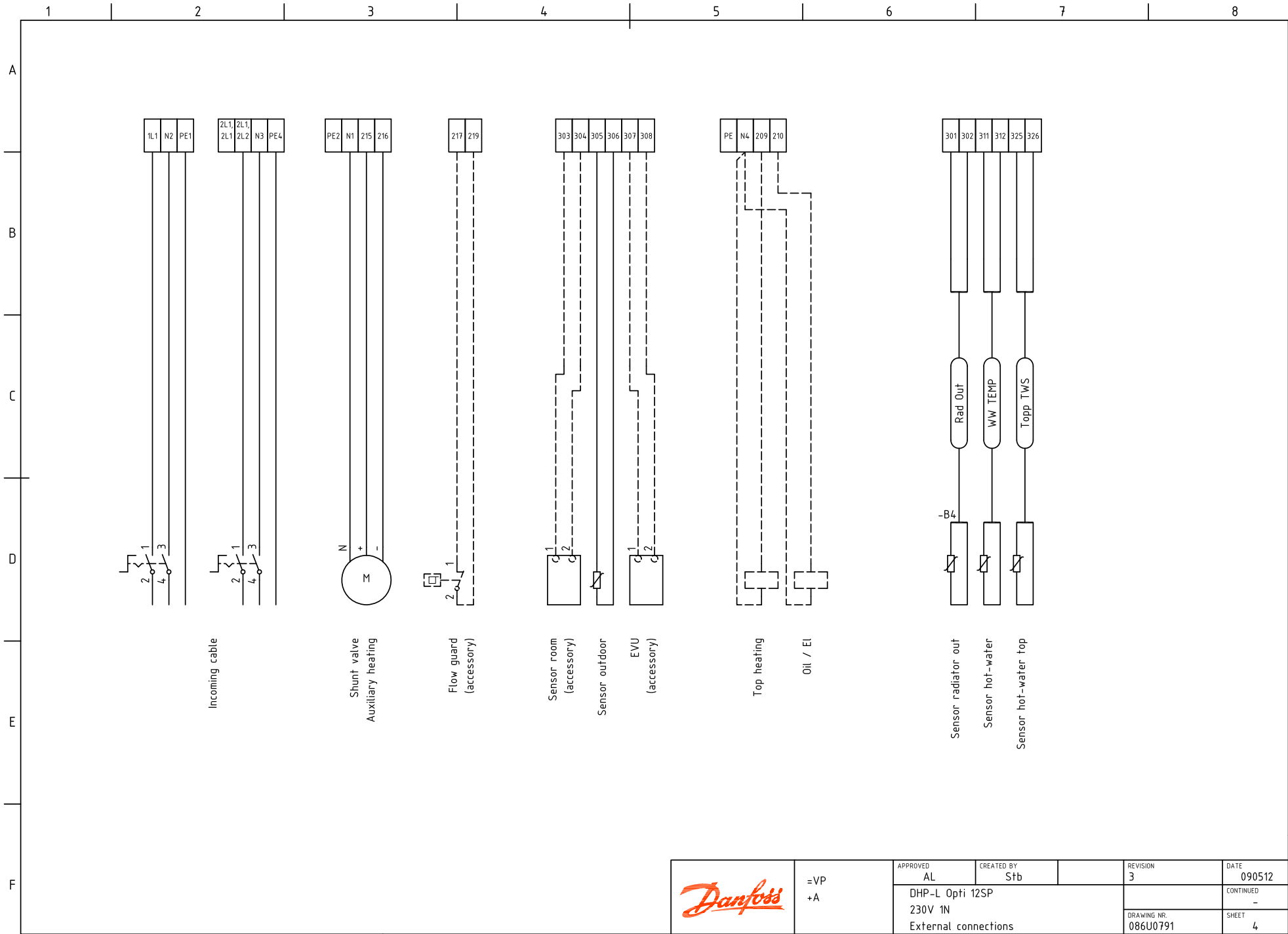
Pump circulation


Reversing valve
Hot-water

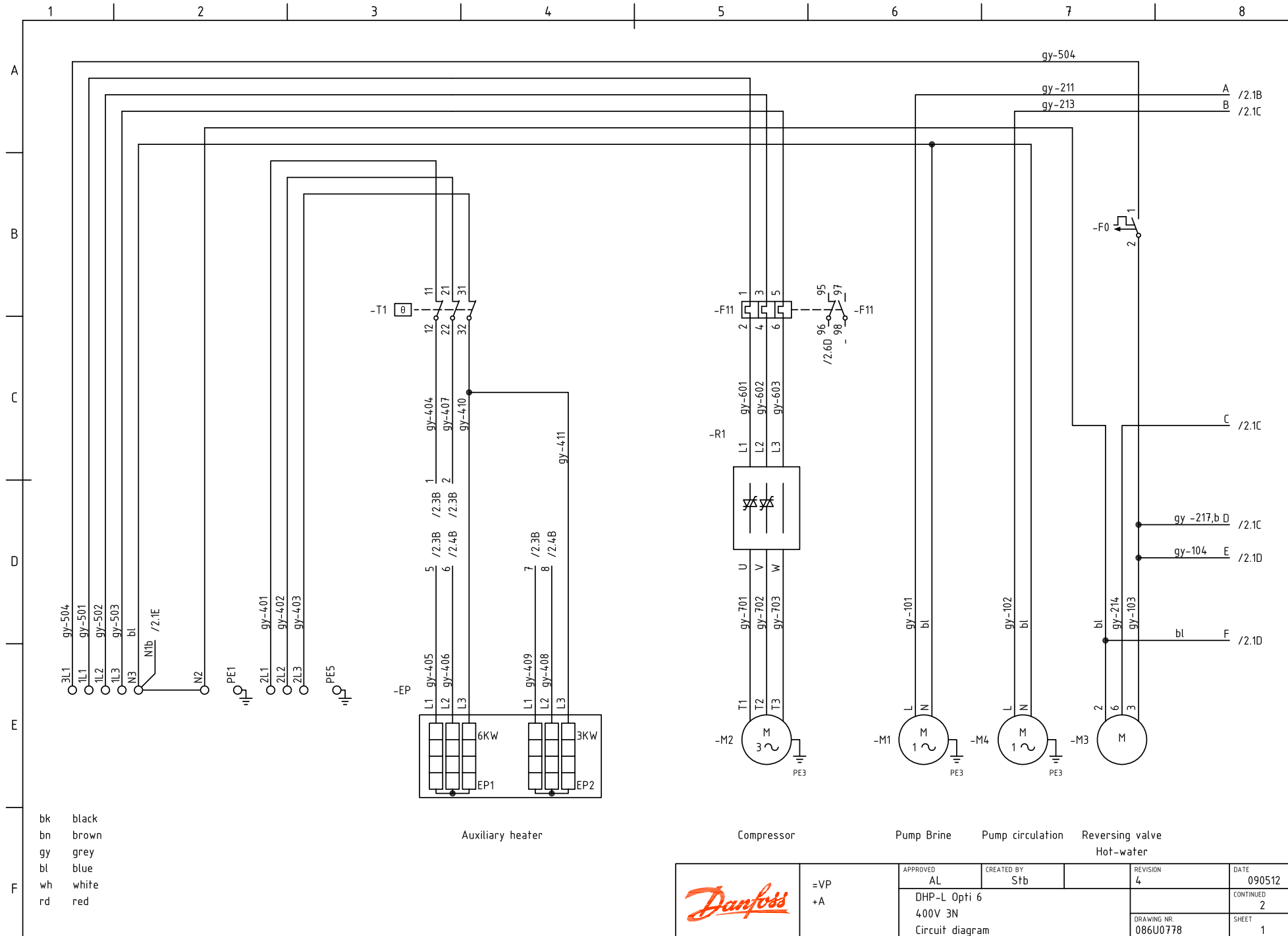
	=VP +A	APPROVED AL	CREATED BY Stb	REVISION 3	DATE 090512	
		DHP-L Opti 12SP 230V 1N Circuit diagram			CONTINUED 2	SHEET 1
					DRAWING NR. 086U0791	

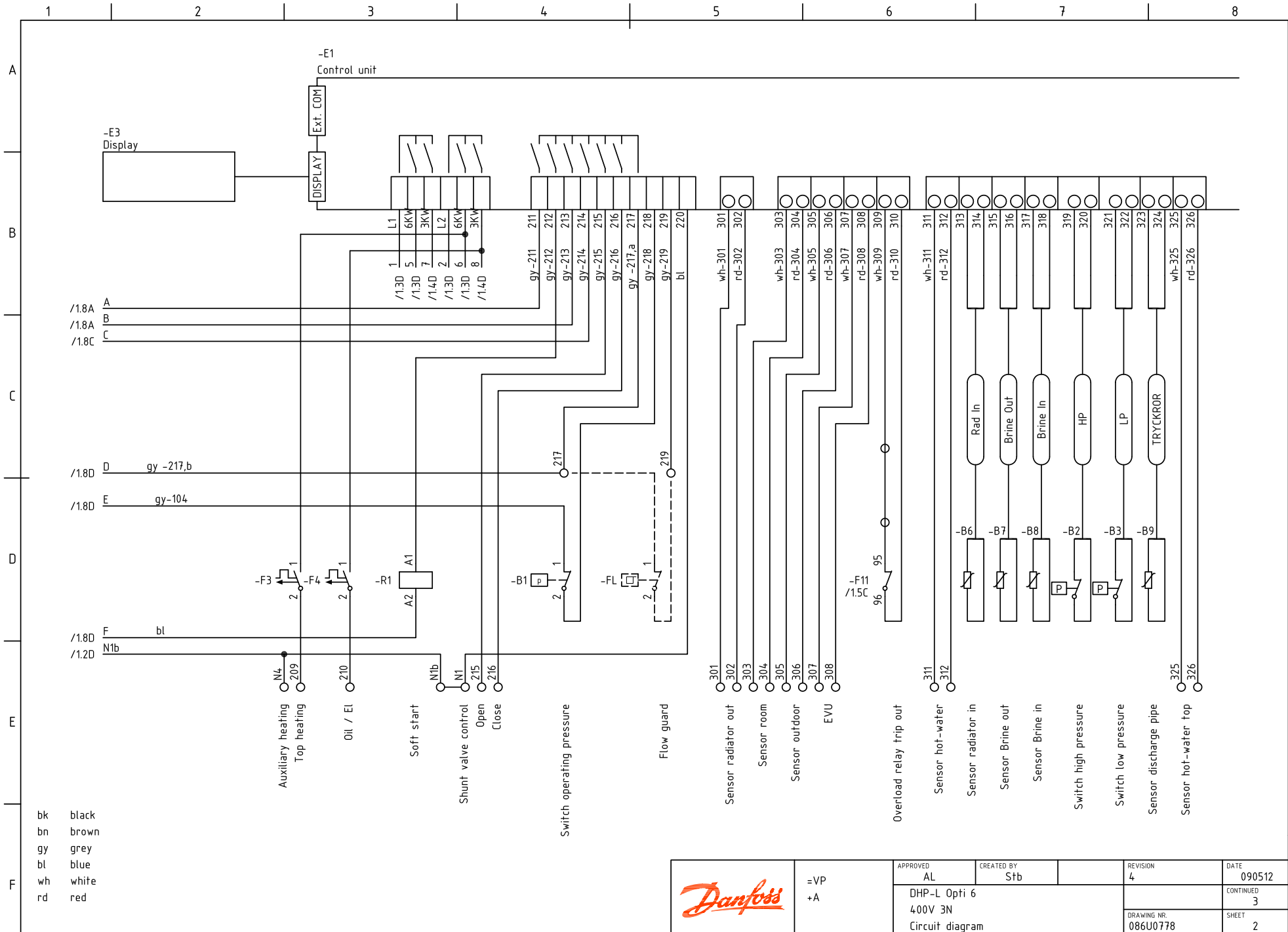


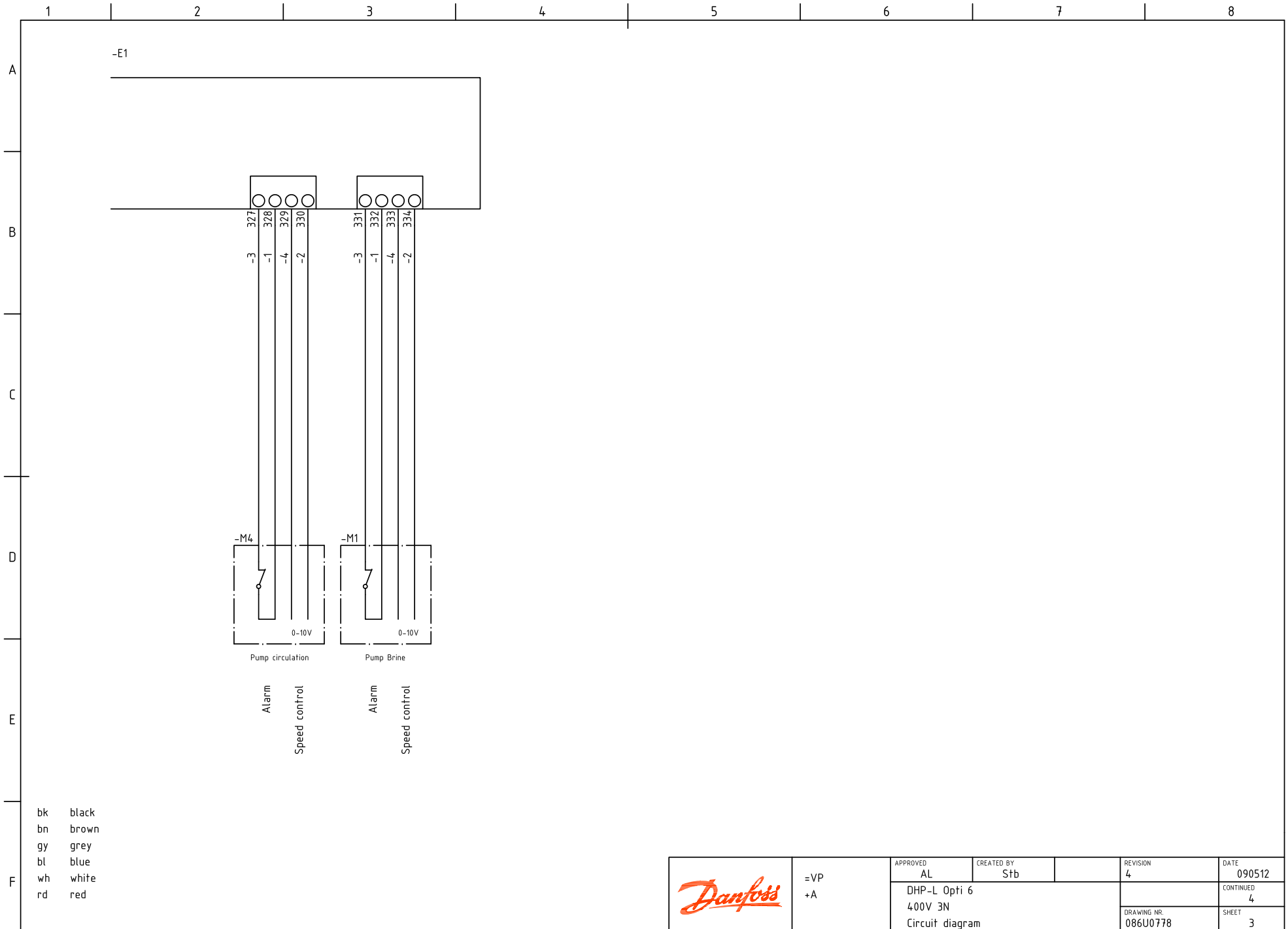




	=VP +A	APPROVED AL	CREATED BY Stb	REVISION 3	DATE 090512
		DHP-L Opti 12SP 230V 1N External connections			CONTINUED -
		DRAWING NR. 086U0791			SHEET 4

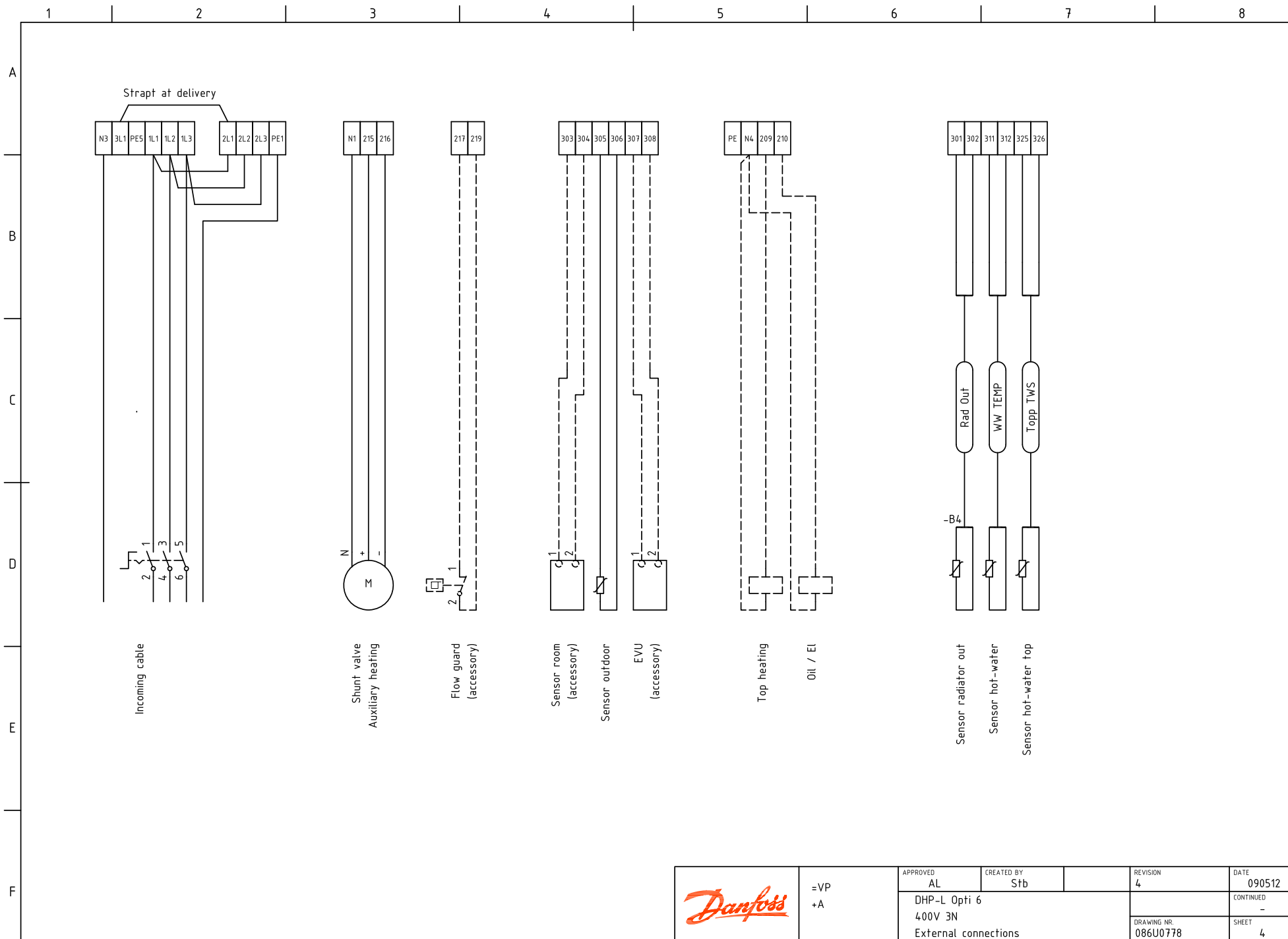




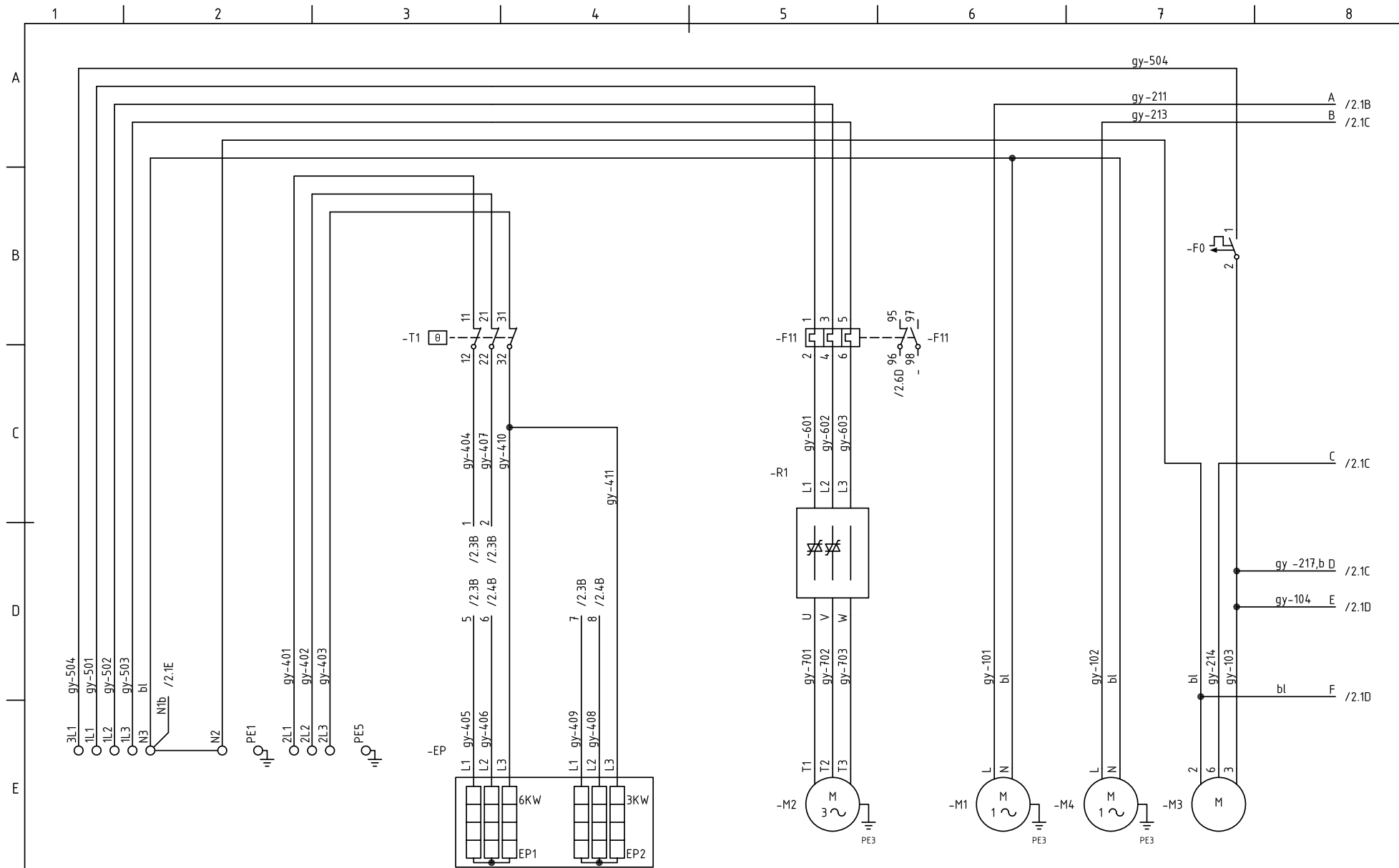


- bk black
- bn brown
- gy grey
- bl blue
- wh white
- rd red

	=VP +A	APPROVED AL	CREATED BY Stb	REVISION 4	DATE 090512
		DHP-L Opti 6 400V 3N Circuit diagram			CONTINUED 4
					DRAWING NR. 086U0778



	=VP +A	APPROVED AL	CREATED BY Stb	REVISION 4	DATE 090512	
		DHP-L Opti 6 400V 3N External connections				CONTINUED -
					DRAWING NR. 086U0778	SHEET 4



- bk black
- bn brown
- gy grey
- bl blue
- wh white
- rd red

Auxiliary heater

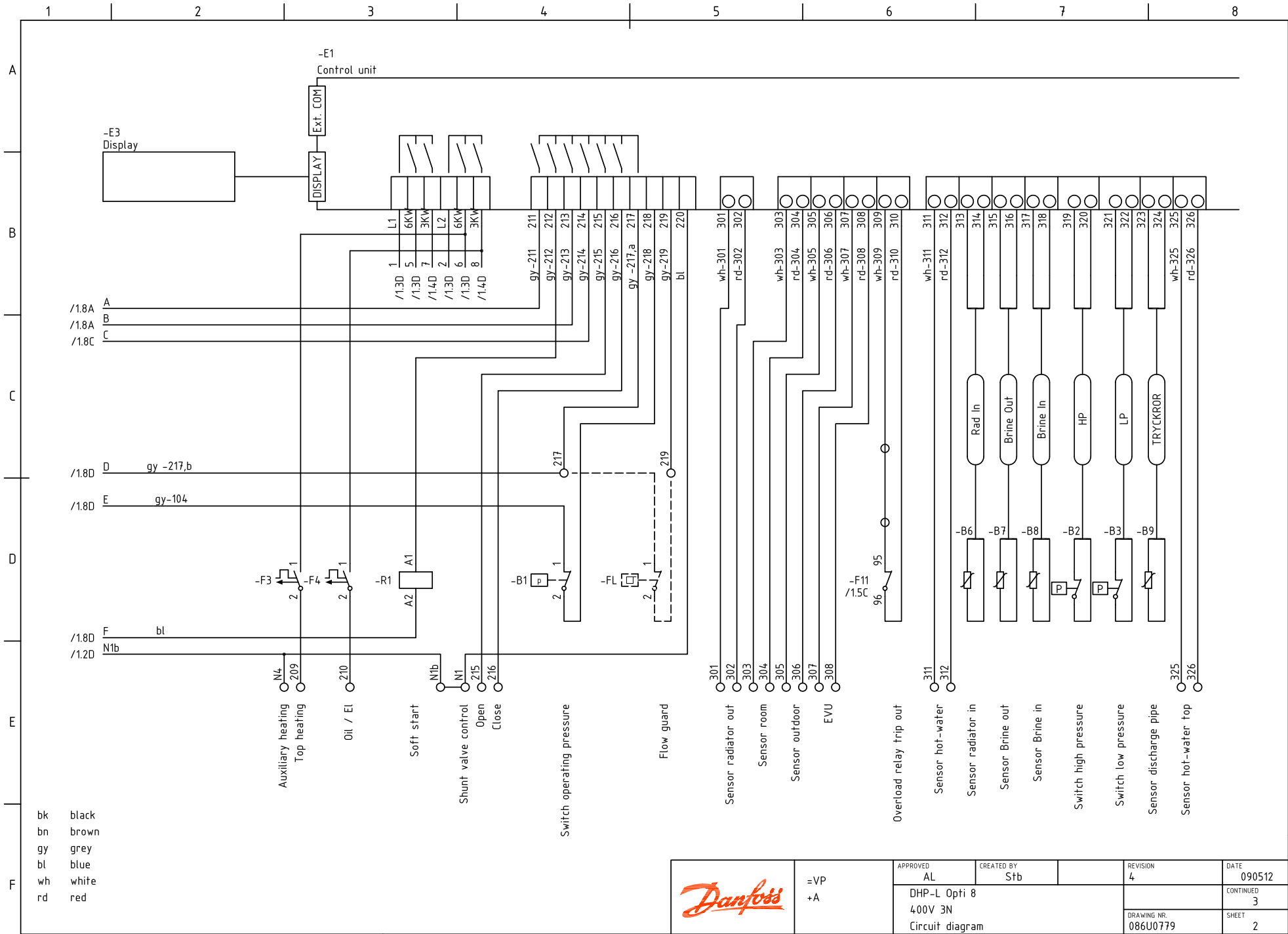
Compressor

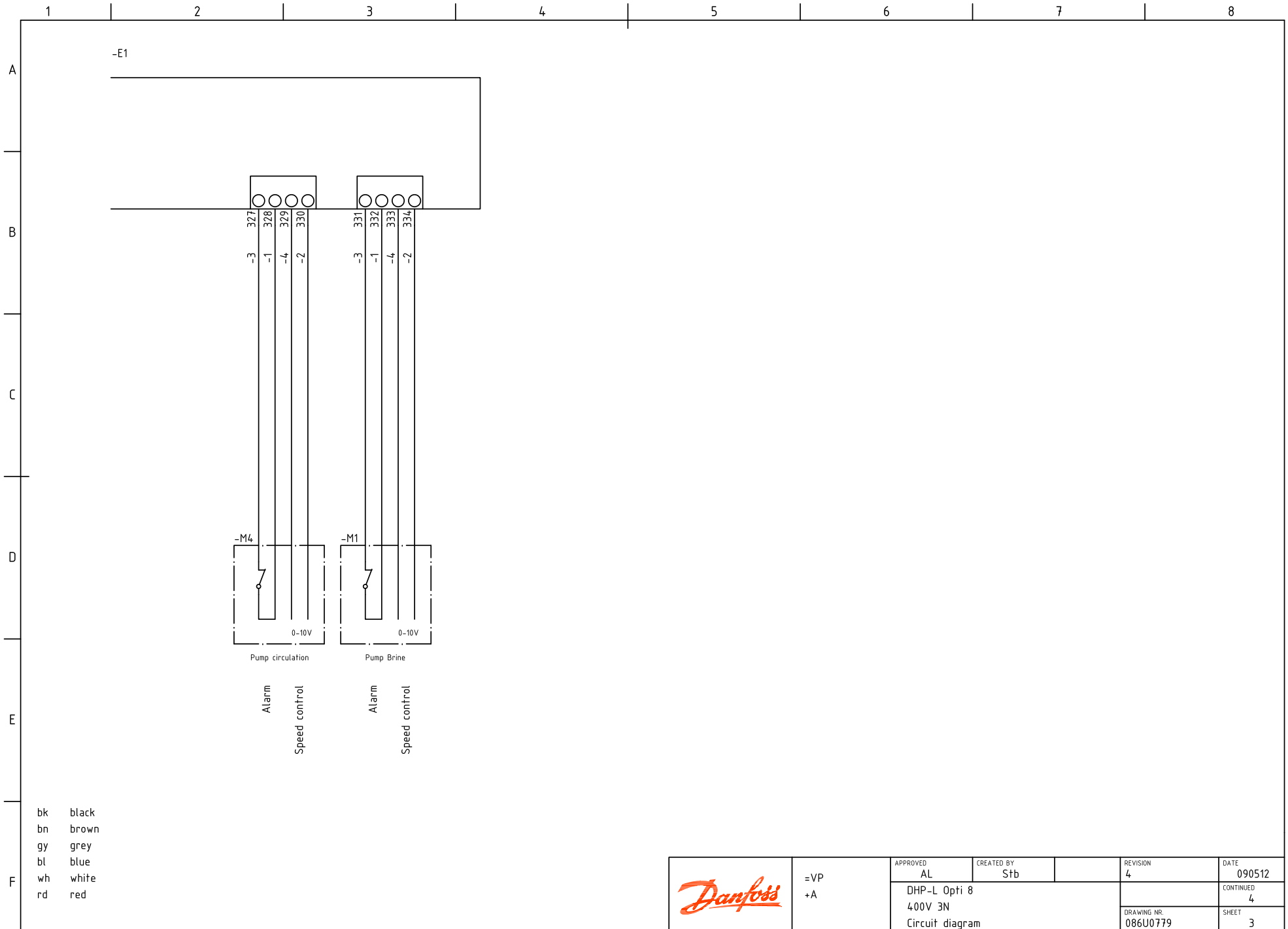
Pump Brine

Pump circulation

Reversing valve
Hot-water

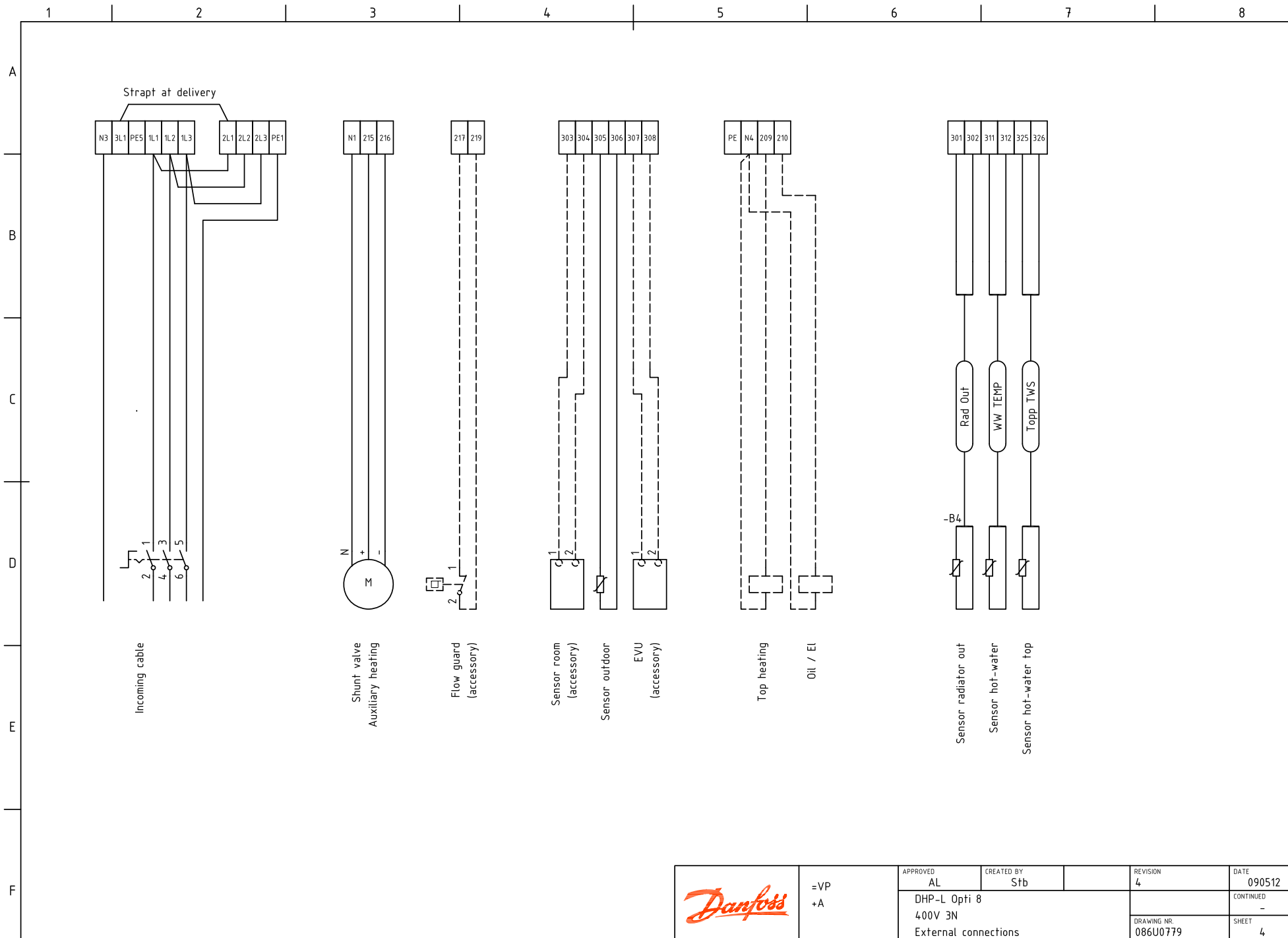
	=VP +A	APPROVED AL	CREATED BY Stb	REVISION 4	DATE 090512	
		DHP-L Opti 8 400V 3N Circuit diagram			CONTINUED 2	SHEET 1
					DRAWING NR. 086U0779	



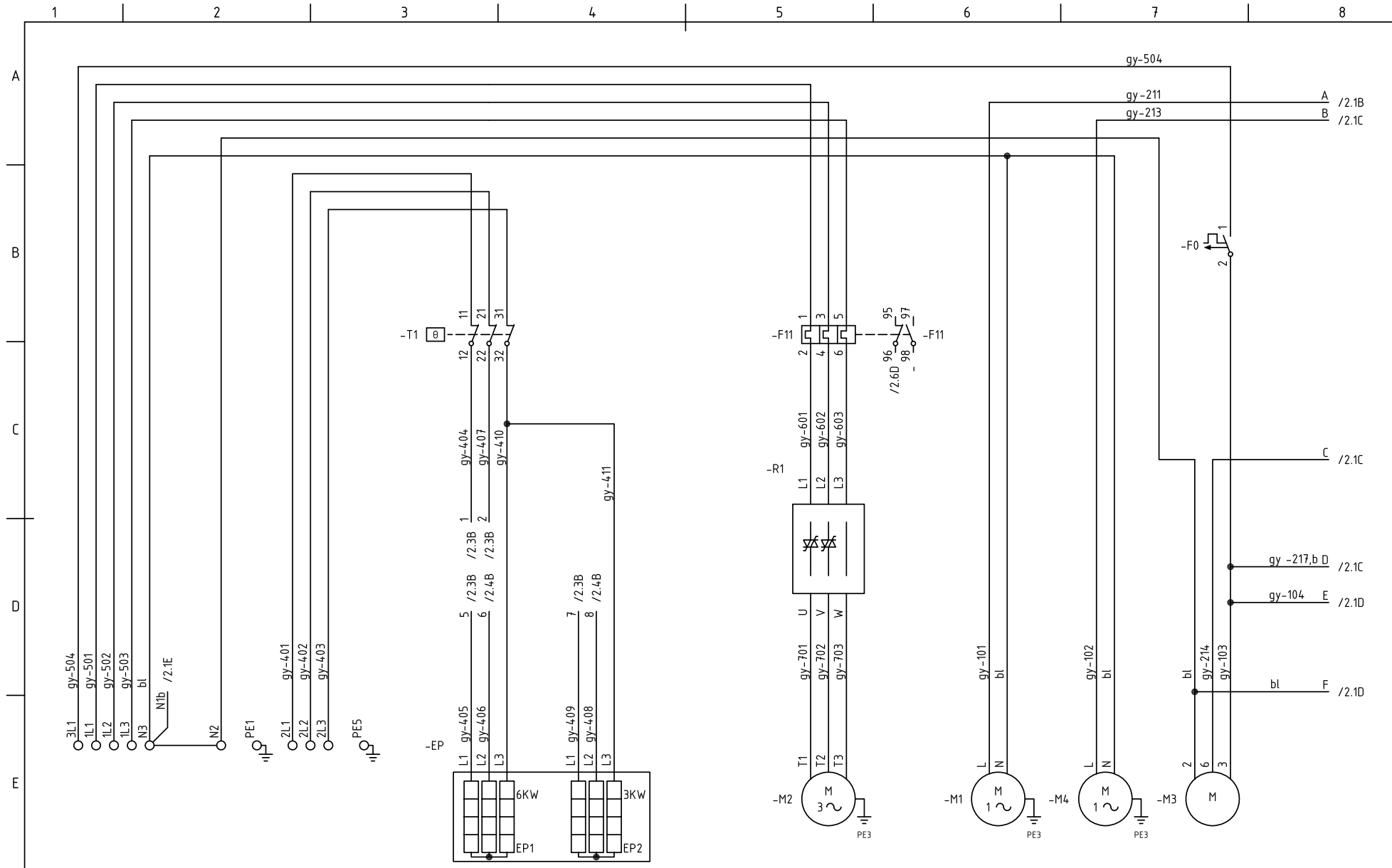


- bk black
- bn brown
- gy grey
- bl blue
- wh white
- rd red

	=VP +A	APPROVED AL	CREATED BY Stb	REVISION 4	DATE 090512	
		DHP-L Opti 8 400V 3N Circuit diagram			CONTINUED 4	SHEET 3
					DRAWING NR. 086U0779	



	=VP +A	APPROVED AL	CREATED BY Stb	REVISION 4	DATE 090512	
		DHP-L Opti 8 400V 3N External connections				CONTINUED -
					DRAWING NR. 086U0779	SHEET 4



- bk black
- bn brown
- gy grey
- bl blue
- wh white
- rd red

Auxiliary heater

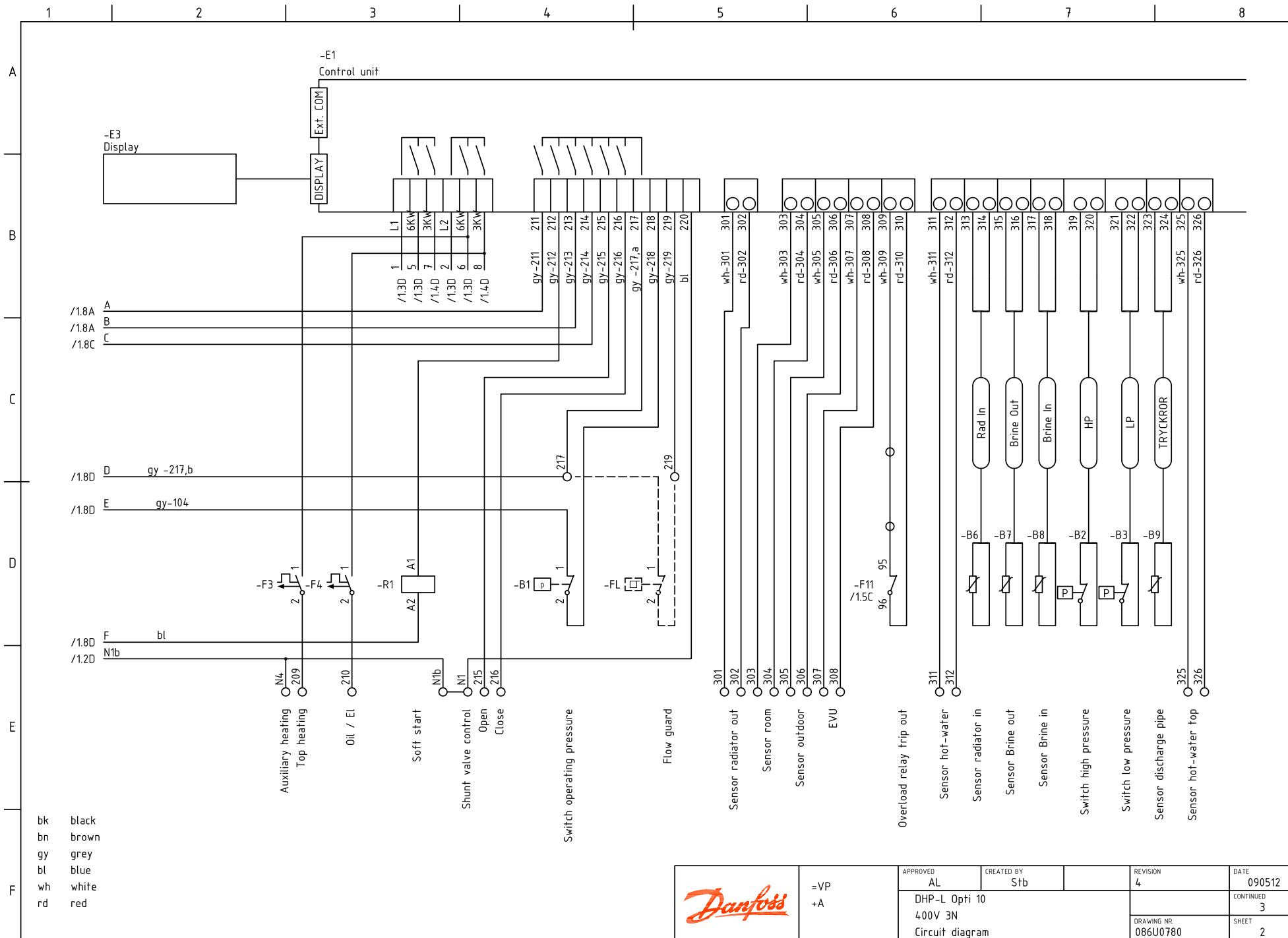
Compressor

Pump Brine

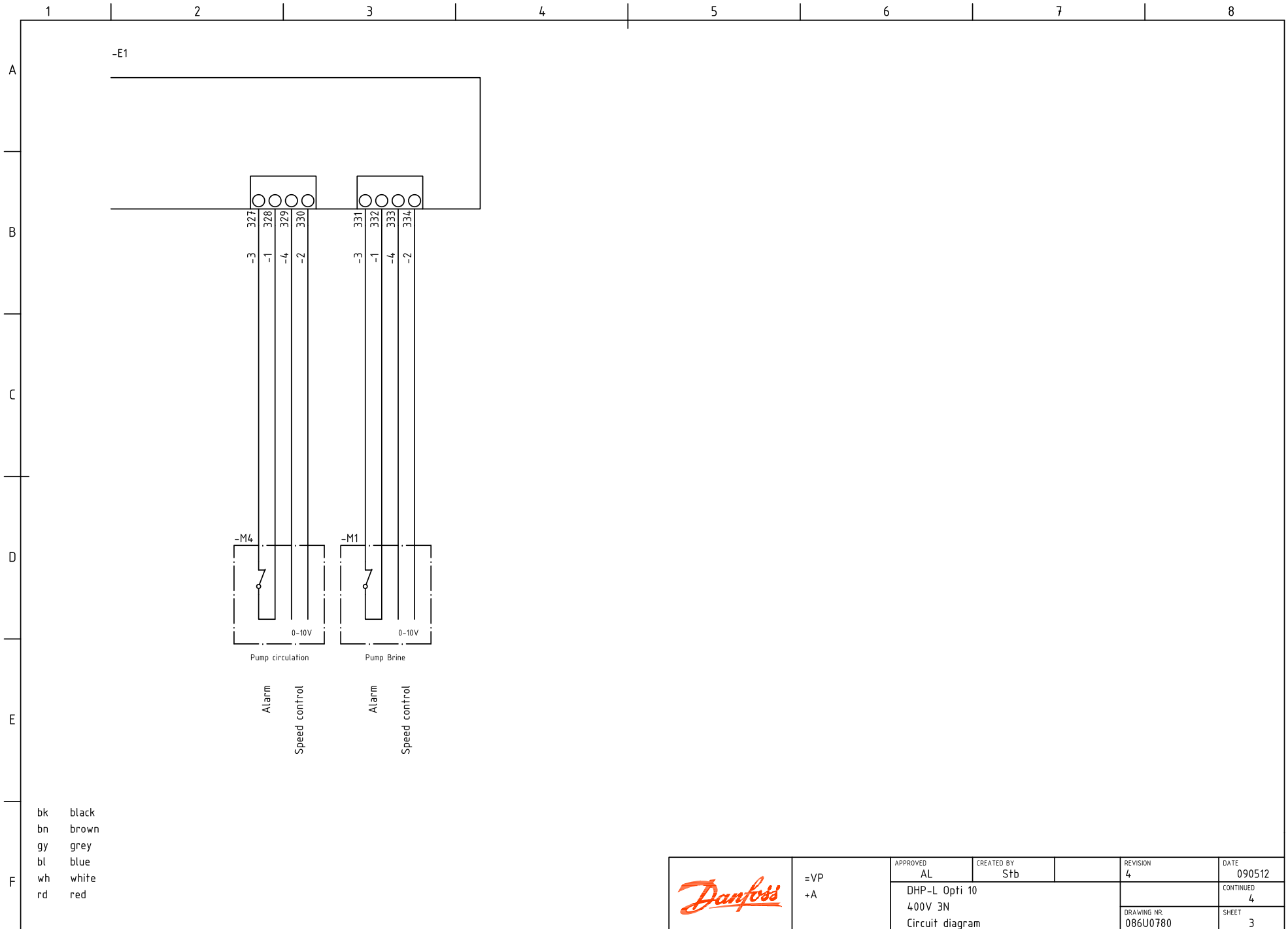
Pump circulation

Reversing valve
Hot-water


	=VP +A	APPROVED AL	CREATED BY Stb	REVISION 4	DATE 090512	
		DHP-L Opti 10 400V 3N Circuit diagram			CONTINUED 2	SHEET 1
					DRAWING NR. 086U0780	

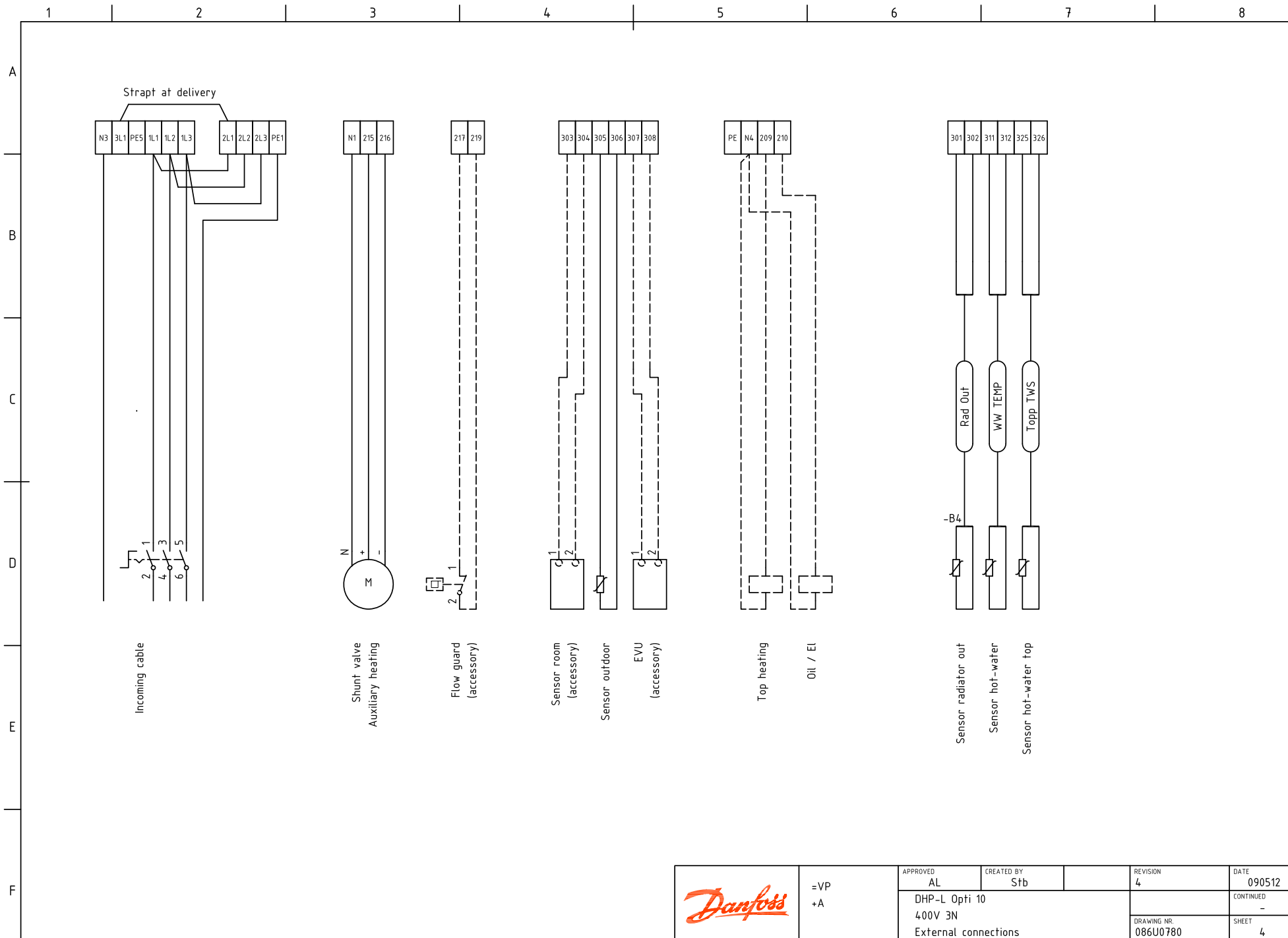



	=VP +A	APPROVED AL	CREATED BY Stb	REVISION 4	DATE 090512	
		DHP-L Opti 10 400V 3N Circuit diagram			DRAWING NR. 086U0780	CONTINUED 3
					SHEET 2	

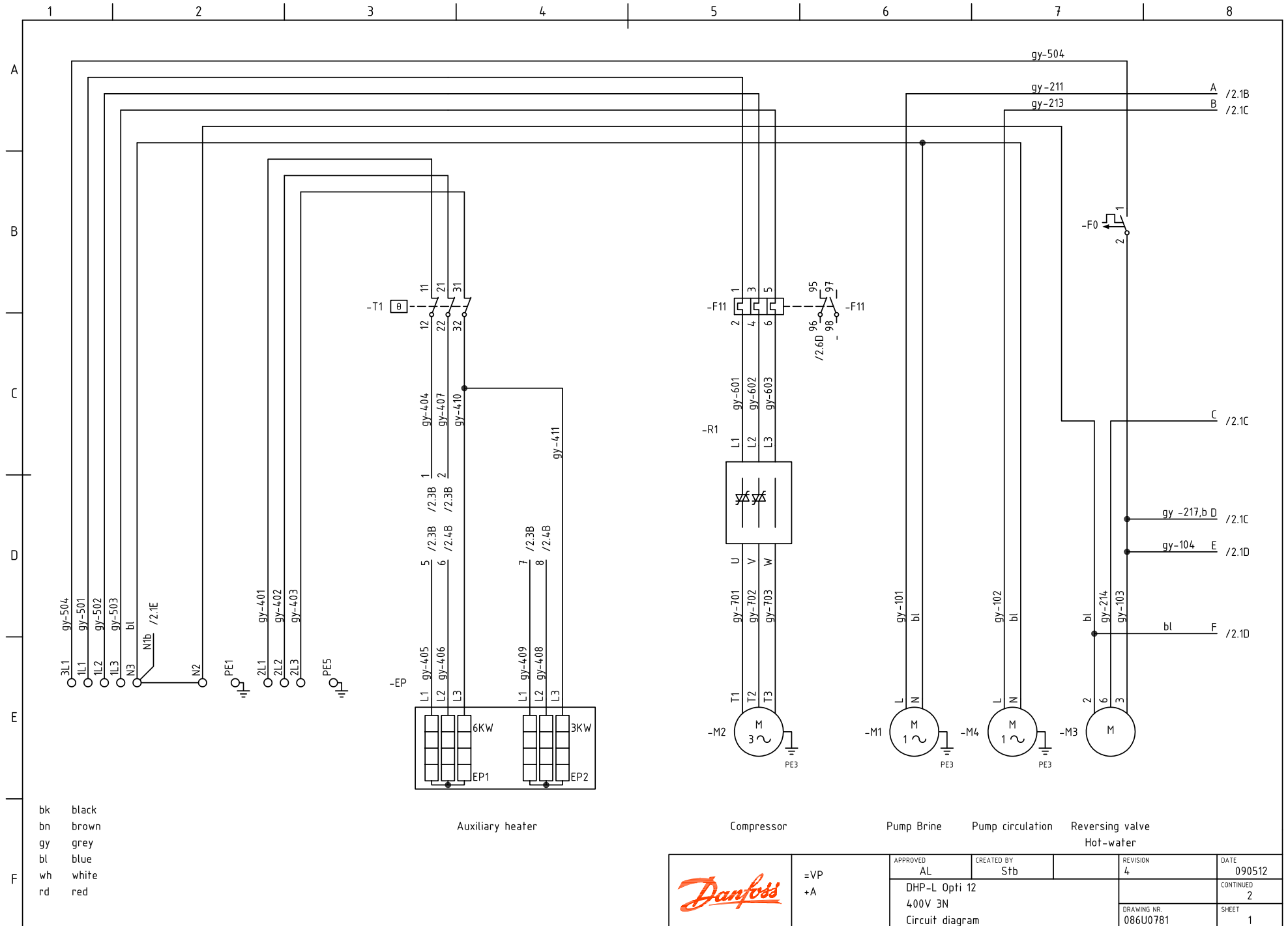


- bk black
- bn brown
- gy grey
- bl blue
- wh white
- rd red

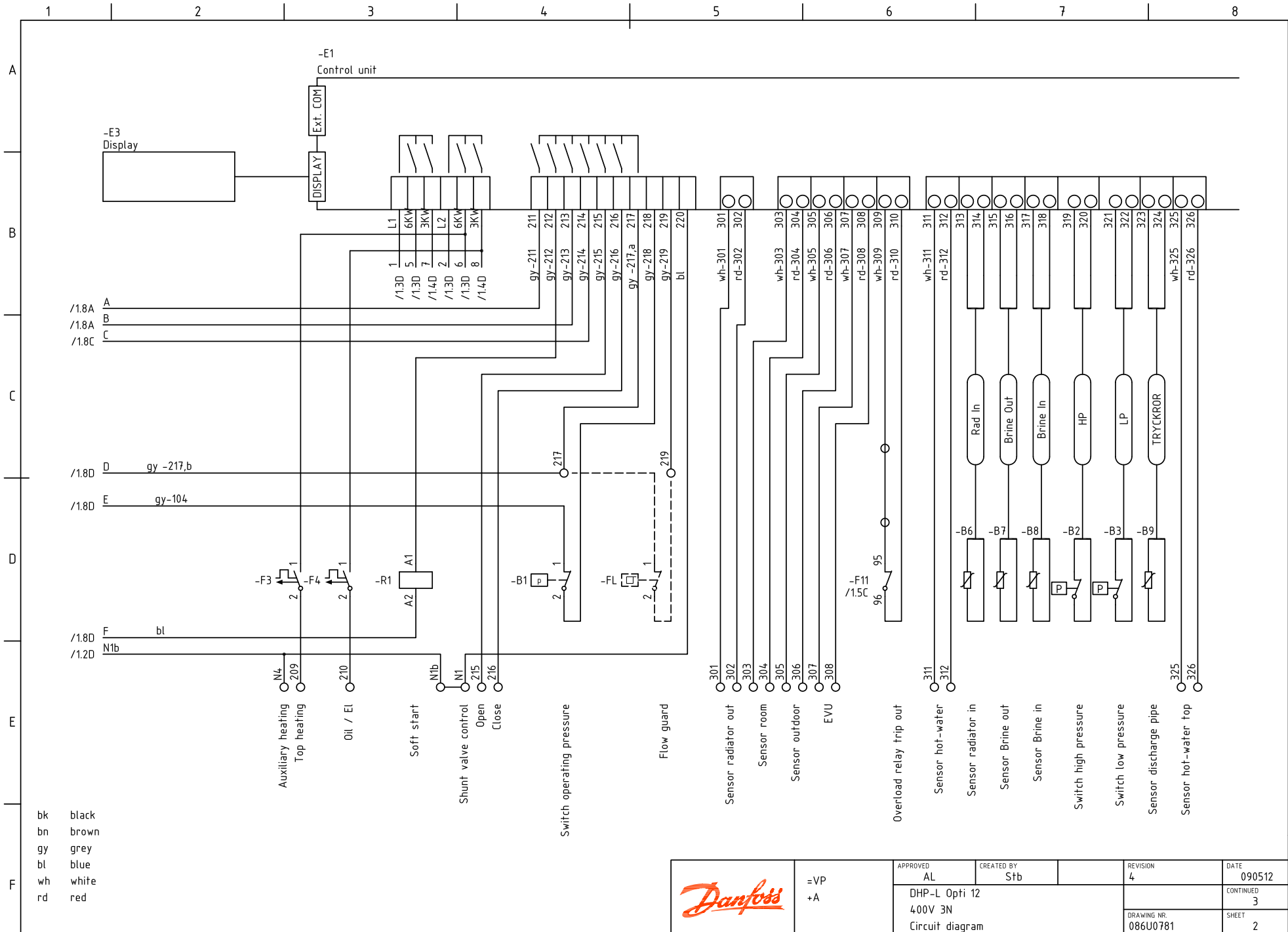
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		DHP-L Opti 10 400V 3N Circuit diagram			CONTINUED 4	SHEET 4
					DRAWING NR. 086U0780	SHEET 3

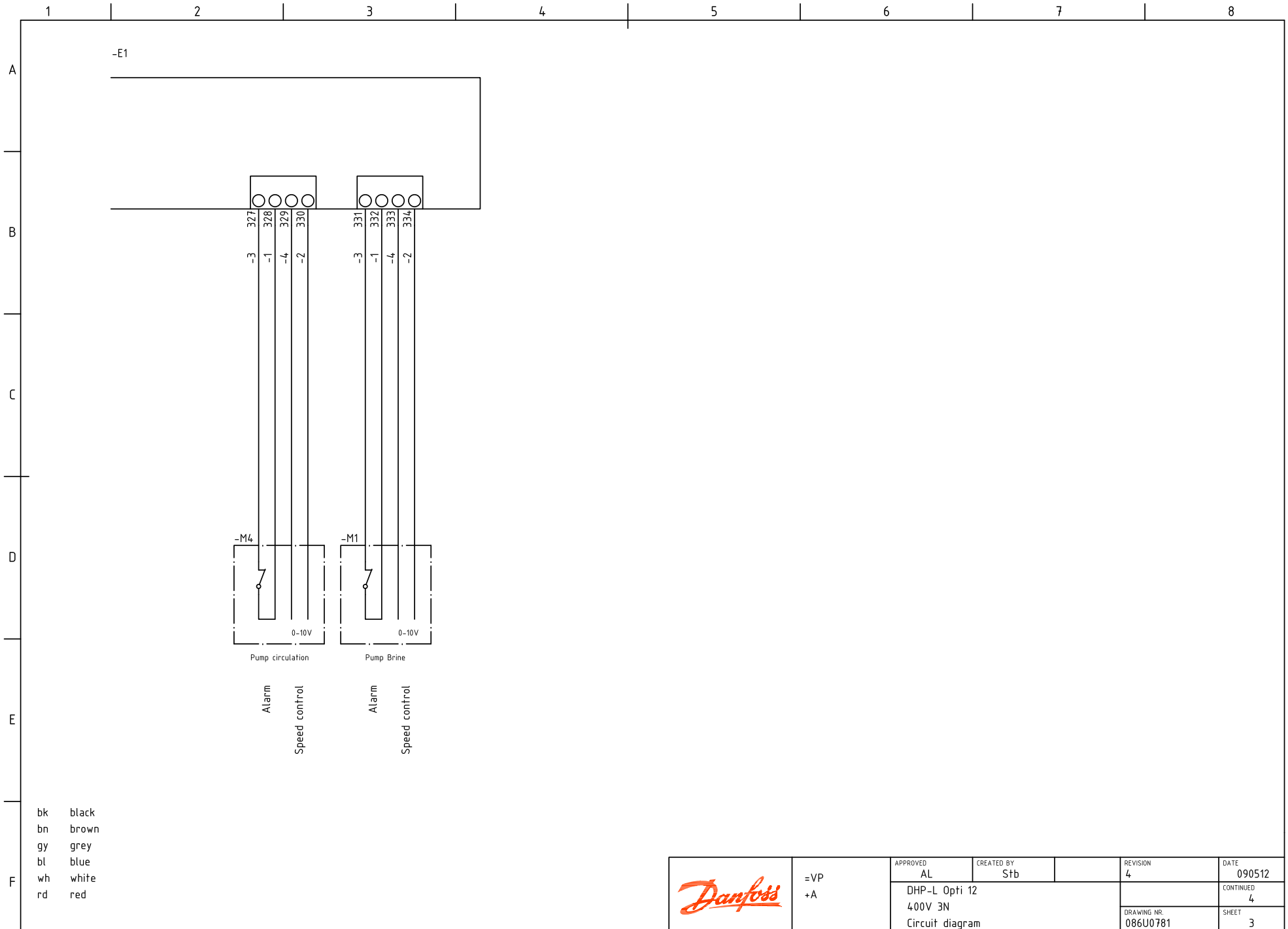


	=VP +A	APPROVED	CREATED BY	REVISION	DATE	
		AL	Sth	4	090512	
		DHP-L Opti 10				CONTINUED
		400V 3N				-
External connections				DRAWING NR.	SHEET	
				086U0780	4	




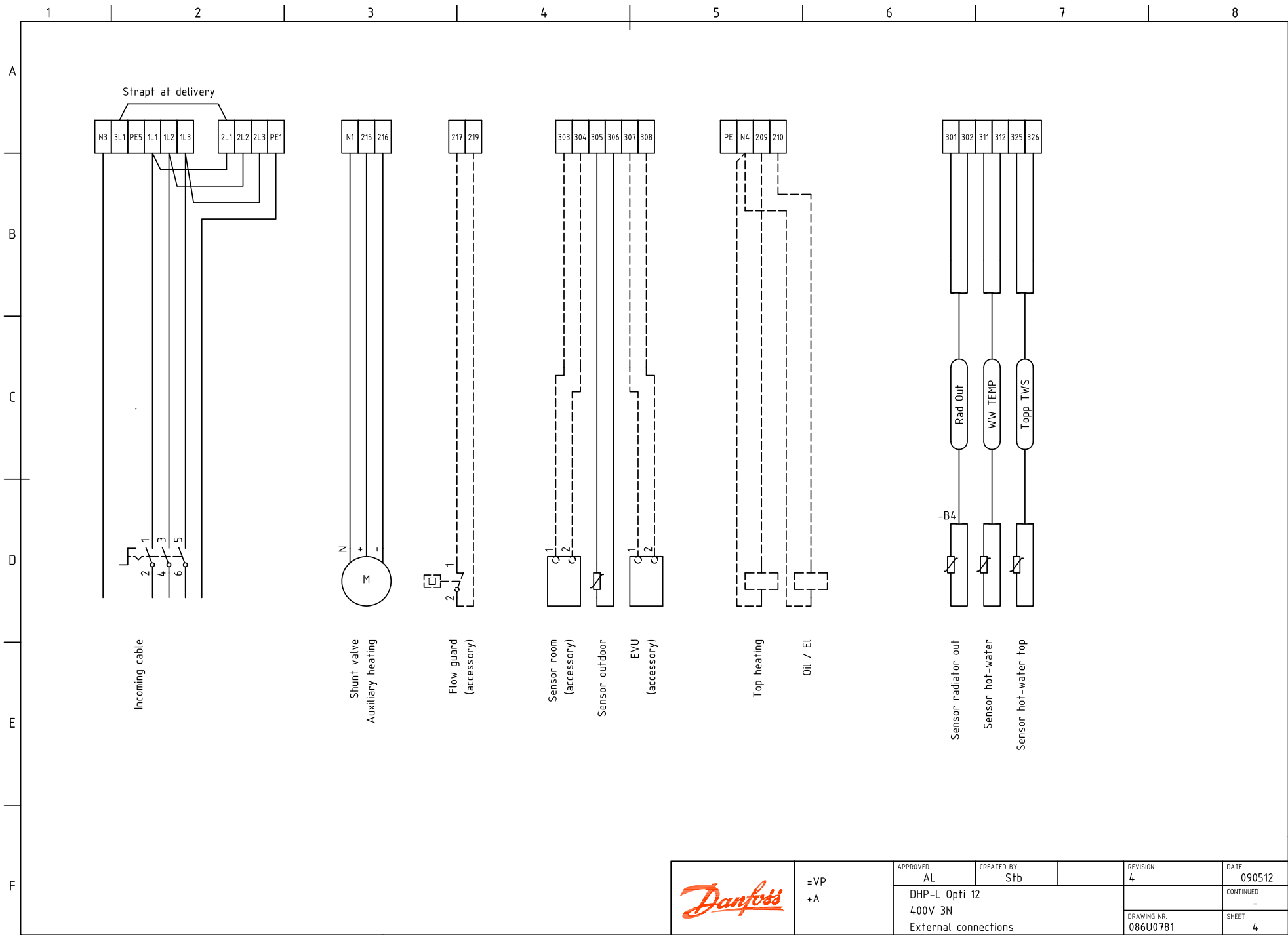
	=VP +A	APPROVED AL	CREATED BY Stb	REVISION 4	DATE 090512
		DHP-L Opti 12 400V 3N Circuit diagram			CONTINUED 2
					DRAWING NR. 086U0781




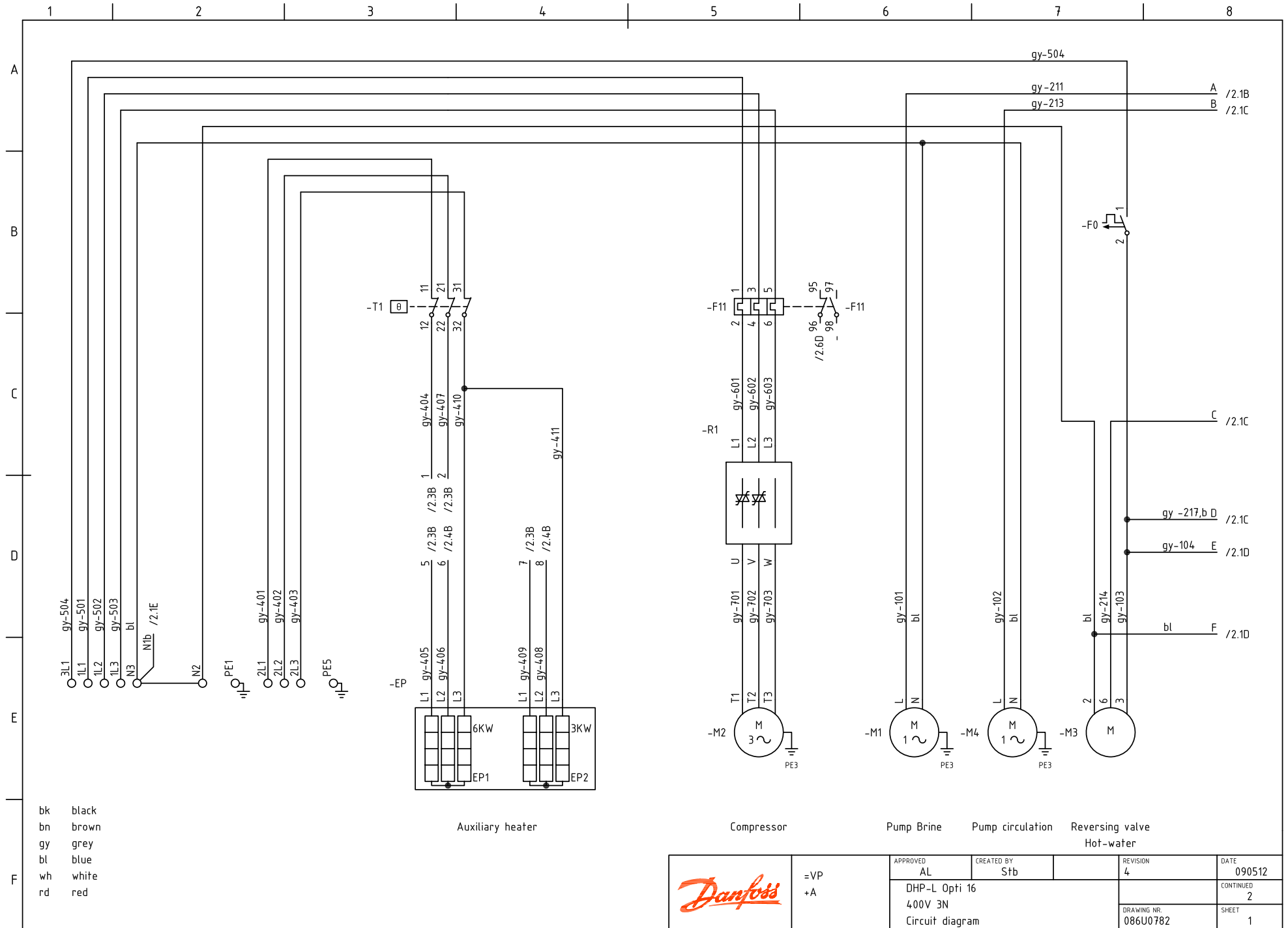


- bk black
- bn brown
- gy grey
- bl blue
- wh white
- rd red

	=VP +A	APPROVED AL	CREATED BY Stb	REVISION 4	DATE 090512	
		DHP-L Opti 12 400V 3N Circuit diagram			DRAWING NR. 086U0781	CONTINUED 4
					SHEET 3	



	=VP +A	APPROVED AL	CREATED BY Stb	REVISION 4	DATE 090512
		DHP-L Opti 12 400V 3N External connections			CONTINUED -
					DRAWING NR. 086U0781



- bk black
- bn brown
- gy grey
- bl blue
- wh white
- rd red

Auxiliary heater

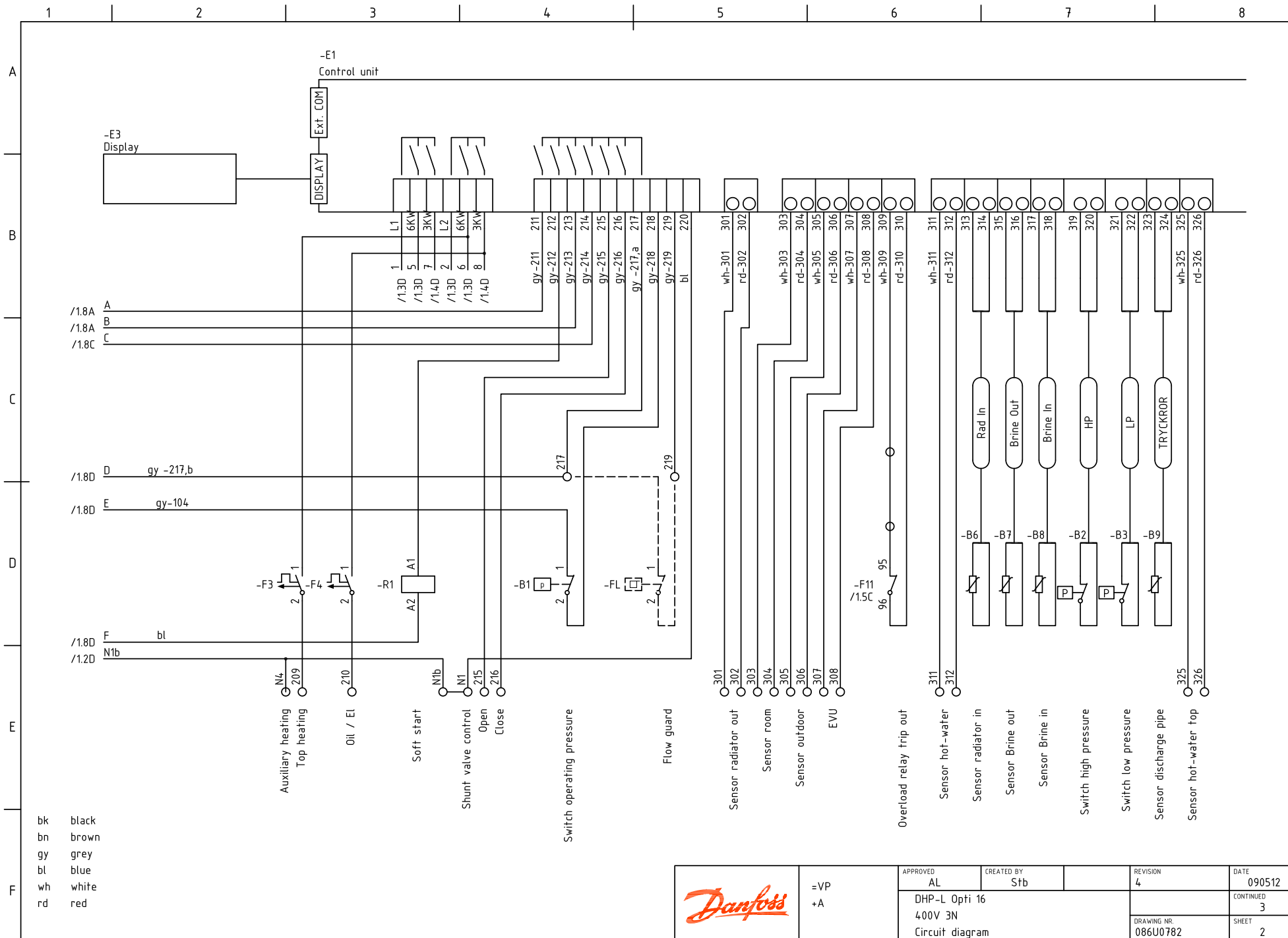
Compressor

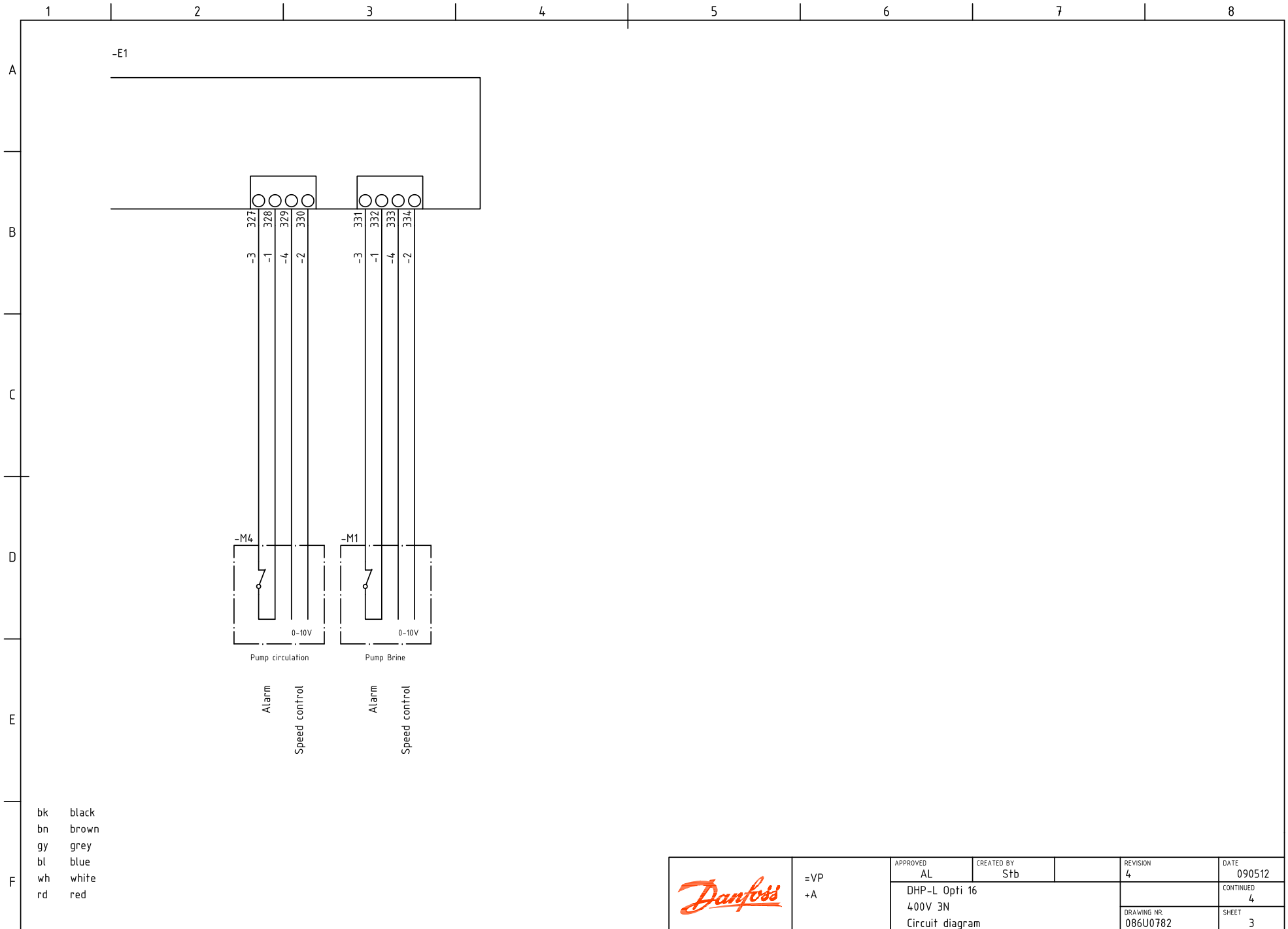
Pump Brine

Pump circulation


Reversing valve
Hot-water

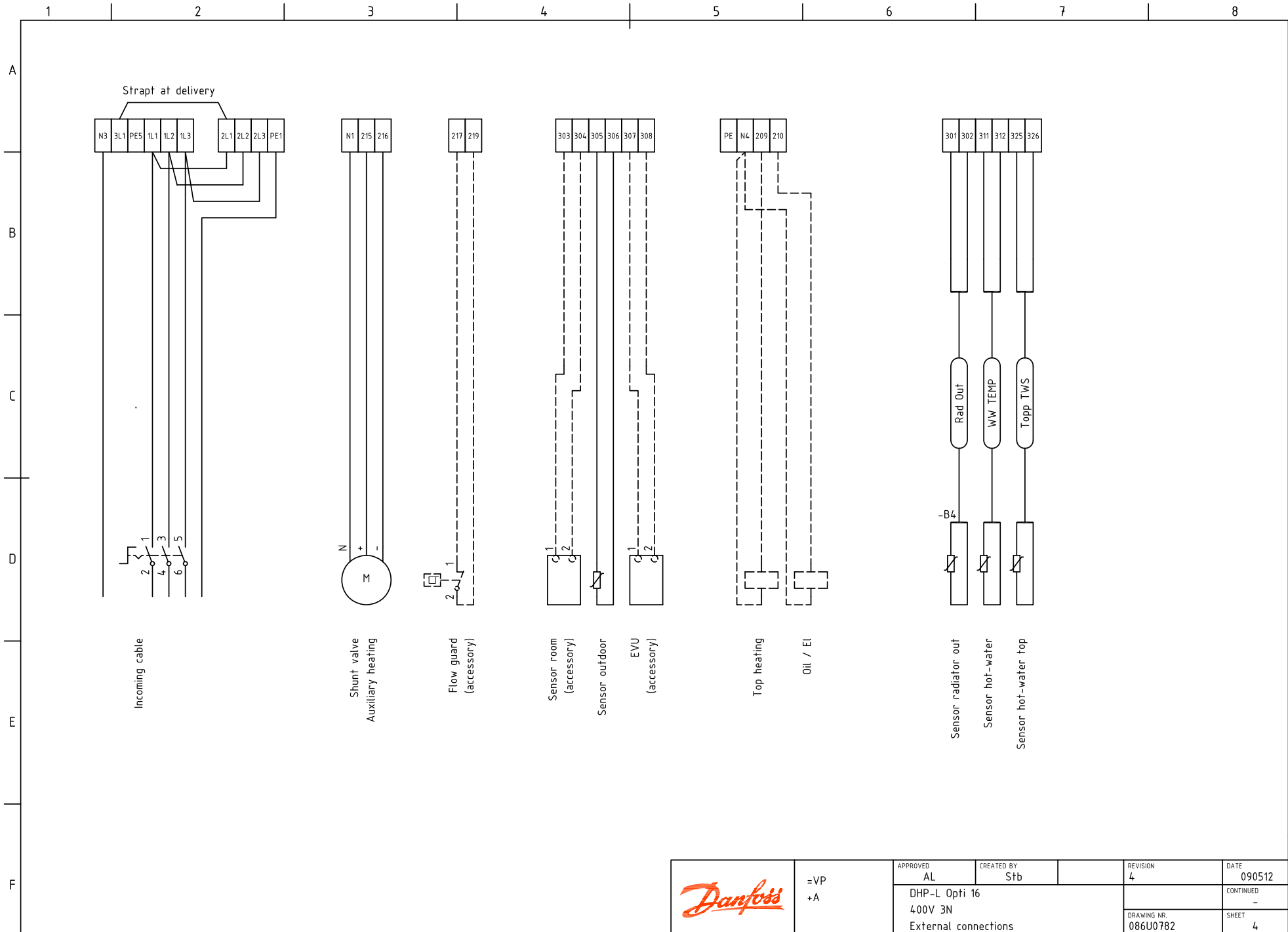
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		DHP-L Opti 16 400V 3N Circuit diagram			CONTINUED 2	SHEET 1
					DRAWING NR. 086U0782	






- bk black
- bn brown
- gy grey
- bl blue
- wh white
- rd red

	=VP +A	APPROVED AL	CREATED BY Stb	REVISION 4	DATE 090512	
		DHP-L Opti 16 400V 3N Circuit diagram				CONTINUED 4
					DRAWING NR. 086U0782	SHEET 3



	=VP +A	APPROVED	CREATED BY	REVISION	DATE	
		AL	Sth	4	090512	
		DHP-L Opti 16				CONTINUED
		400V 3N				-
External connections				DRAWING NR.	SHEET	
				086U0782	4	

If these instructions are not followed during installation, operation and maintenance, the obligations of Danfoss under the warranty regulations are no longer binding.

The Danfoss logo is rendered in a bold, black, cursive script font. The letters are fluid and interconnected, with a prominent underline that sweeps across the bottom of the word.

Danfoss A/S
www.danfoss.com