

FEUERCELL



Fire extinguishing systems

Field of application

- Extinguishing water supply
- Supply isolation
- Irrigation
- Water supply

Design

Fully automatic pressure boosting units according to DIN 14462. All units are wired ready for connection and with the pipes in place (on a base frame with rubber buffers). All units have a fully automatic pump control as well as a pressureless feed tank. The Feuerzell FC Duo fire extinguishing unit is designed redundantly.

Motor

Protection class	IP 55
Class of insulation	F
Voltage	3~ 400/230 V ± 10 %
	3~ 690/400 V ± 10 %
Motor speed	2850 rpm
Frequency	50 Hz

Technical data

Flow rate	Q up to max. 55 m³/h
Total dynamic head	H up to max. 150 m
Fluid temperature	t up to max. 20 °C
Operating pressure	p up to max. 16 bar

Pumped fluid

Clear fluids which don't chemically and mechanically attack the unit materials.

Materials used

Pump housing	stainless steel AISI 304
Impellers	stainless steel AISI 304
Diffusers	stainless steel AISI 304
Pump shaft	stainless steel AISI 303
Mechanical seal	carbon/SiC/EPDM
Pipework	stainless steel AISI 316Ti
Fixtures	copper alloy or cast iron
Base frame	stainless steel AISI 304
Feed tank	PE

Type key

Feuerzell FC Duo II 40-40-2

Feuerzell FC Duo	Extinguishing water unit
II (I - without)	incl. feed tank
Duo	Double pump unit
40	pump size
40	number of stages x 10
-2	reduced impeller

Special editions

- Fire extinguishing systems for greater flow rates and higher operating pressures.
- Fire extinguishing systems without feed tank type FC I/ FC I Duo.



Functional description

The units are turned on automatically via a pressure transmitter situated on the discharge side. They are turned off via a flow sensor on the discharge side.

An 8 l diaphragm pressure vessel is installed as a control in the pressure line.

All units are delivered with an electric shut-off relay (follow up) in order to reach a minimum pump running time.

The back feed and dry running protection are controlled by a submersible pressure sensor in the feed tank. The back feed is implemented using an electric ball valve. This electric ball valve is equipped with a battery, which closes the ball valve in a power cut.

A magnetic valve in the pressure side guarantees a minimum intake quantity to avoid overheating. All relevant contact transmitters are monitored for wire breakage and short circuits.

A weekly test run is included in the control. A temperature sensor protects the centrifugal pump against overheating.

Project planning notes

The flow rate and pressure required can be taken from the fire protection concept. If the specifications cannot be found here, use the table below to agree upon the data with the responsible fire safety authorities or the fire service.

The installation room should be lockable, well ventilated, otherwise unused and free of frost. The installation room must be separate from other fire compartments.

Installation rooms for extinguishing water transition points must be constructed in a way that makes flooding impossible. Sufficient drainage must be provided.

All shut-off devices in the extinguishing water pipe should be arranged as centrally as possible. They must be labelled and secured against unauthorised closing.

The electrical feed is to be used exclusively for the supply of the pressure boosting unit. Two feeds are necessary for redundant pressure boosting units. The electrical feed must be installed with functional preservation. The requirements of the model wiring guidelines for each German federal state apply.

If there is an indirect connection, a foreign water supply must be provided according to DIN 144641-2 to secure the readiness of the extinguishing water for the fire service.

Pressure reducers are permitted, however these should be avoided where possible.

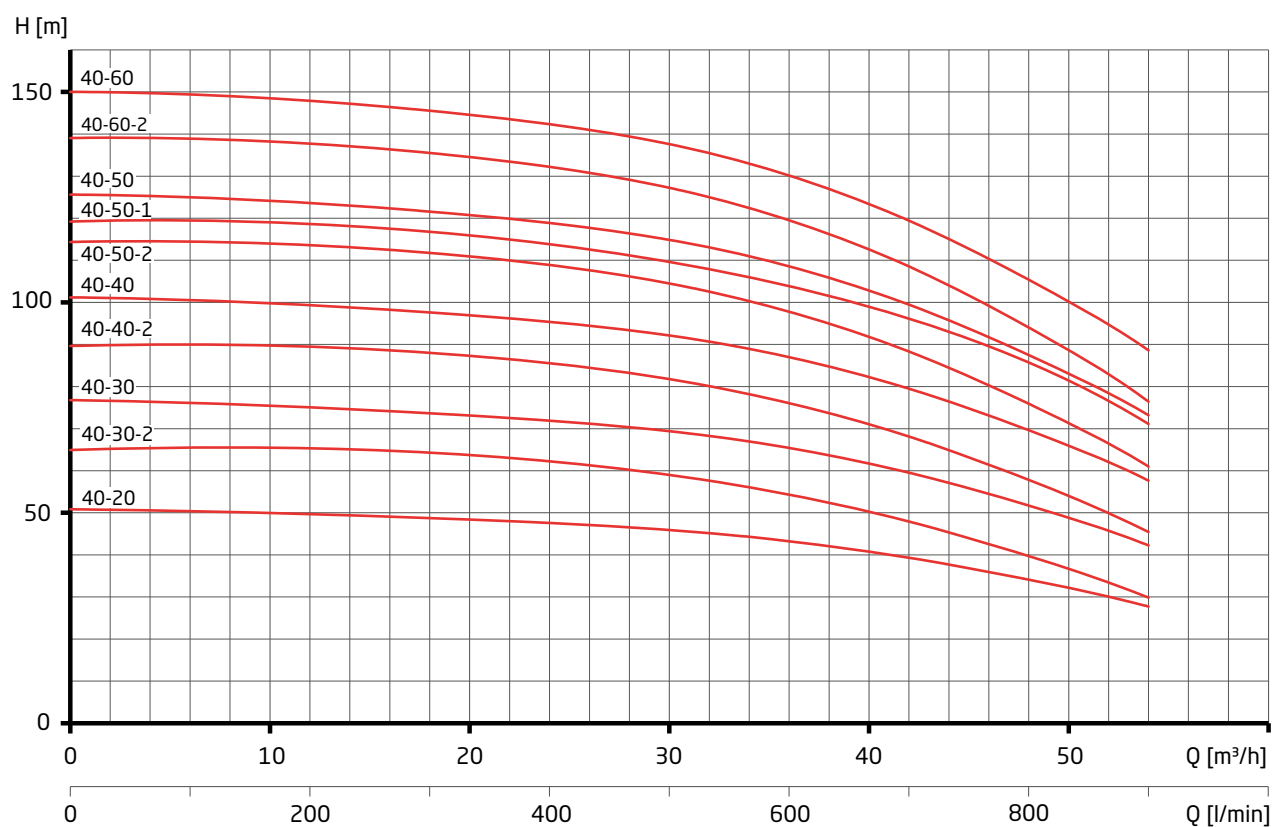
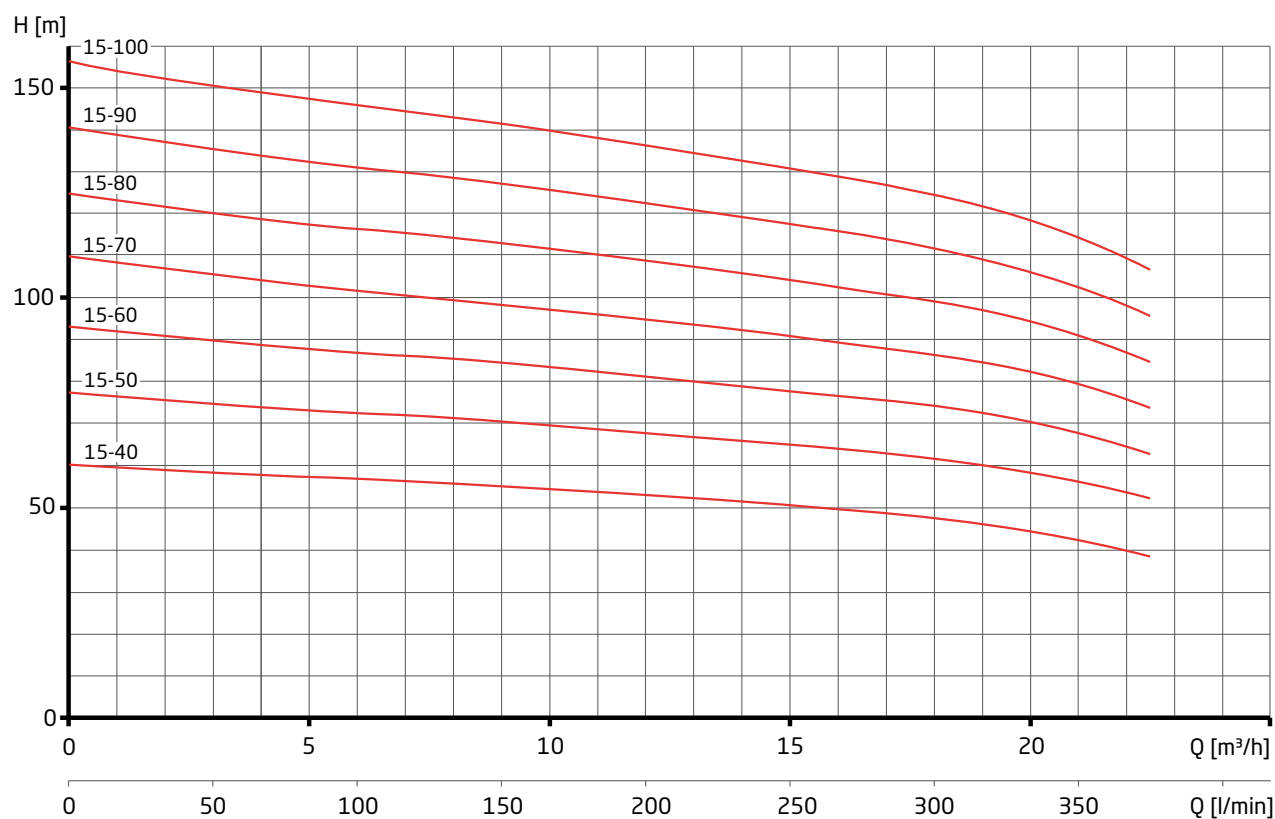
Required flow rates and pressures at the extraction valve (hydrant)

Category	Flow volume at min. flow pressure	Simultaneity	Min. flow pressure	Max. flow pressure	Max. resting pressure
Wall hydrant type S (Self service)	24 l/min	2	0.20 MPa (2.0 bar)	0.8 MPa (8.0 bar)	1.2 MPa (12.0 bar)
Wall hydrant type F (Fire service)	100 l/min	3	0.30 MPa (3.0 bar)	0.8 MPa (8.0 bar)	1.2 MPa (12.0 bar)
Wall hydrant type F (Fire service)	200 l/min	3	0.45 MPa (4.5 bar)	0.8 MPa (8.0 bar)	1.2 MPa (12.0 bar)
Surface hydrant DN 80	800 l/min	according to fire protection concept	0.15 MPa (1.5 bar)	0.8 MPa (8.0 bar)	1.2 MPa (12.0 bar)
Surface hydrant DN 100	1,600 l/min	according to fire protection concept	0.15 MPa (1.5 bar)	0.8 MPa (8.0 bar)	1.2 MPa (12.0 bar)
Underground hydrant DN 80	800 l/min	according to fire protection concept	0.15 MPa (1.5 bar)	0.8 MPa (8.0 bar)	1.2 MPa (12.0 bar)

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Characteristics



Technical data

Feuercell FC II 15-40 to FC II 40-60

Type	Flow rate Q (m³/H)	Dynamic head at Q H (bar)	Dynamic head at Q = 0 m³/h H ₀ (bar)	Number of pumps	Pipe connections DNS/DND	Power output P ₂ (kW) 3~ 400 V	Rated current (A) 3~ 400 V	Approx. Weight (kg)
FC II 15-40	18	4.70	6.00	1	Rp 2/Rp 2	4.00	7.40	158.00
FC II 15-50	18	6.20	7.70	1	Rp 2/Rp 2	5.50	10.00	197.00
FC II 15-60	18	7.40	9.30	1	Rp 2/Rp 2	7.50	13.30	198.00
FC II 15-70	18	8.60	10.90	1	Rp 2/Rp 2	7.50	13.30	203.00
FC II 15-80	18	9.90	12.50	1	Rp 2/Rp 2	11.00	19.30	280.00
FC II 15-90	18	11.20	14.10	1	Rp 2/Rp 2	11.00	19.30	285.00
FC II 15-100	18	12.50	15.60	1	Rp 2/Rp 2	11.00	19.30	287.00
FC II 40-20	36	4.20	5.00	1	Rp 2/DN 80	7.50	13.30	341.00
FC II 40-30-2	36	5.30	6.50	1	Rp 2/DN 80	11.00	19.30	401.00
FC II 40-30	36	6.60	7.80	1	Rp 2/DN 80	11.00	19.30	403.00
FC II 40-40-2	36	7.70	9.00	1	Rp 2/DN 80	15.00	26.20	405.00
FC II 40-40	36	8.70	10.10	1	Rp 2/DN 80	15.00	26.20	415.00
FC II 40-50-2	36	9.70	11.50	1	Rp 2/DN 80	18.50	32.10	418.00
FC II 40-50-1	36	10.40	11.90	1	Rp 2/DN 80	18.50	32.10	425.00
FC II 40-50	36	10.80	12.50	1	Rp 2/DN 80	18.50	32.10	438.00
FC II 40-60-2	36	12.00	14.00	1	Rp 2/DN 80	18.50	32.10	441.00
FC II 40-60	36	13.00	15.00	1	Rp 2/DN 80	22.00	38.10	458.00

Feuercell FC II Duo 15-40 to FC II Duo 40-60

Type	Flow rate Q (m³/H)	Dynamic head at Q H (bar)	Dynamic head at Q = 0 m³/h H ₀ (bar)	Number of pumps	Pipe connections DNS/DND	Power output P ₂ (kW) per pump 3~ 400 V	Rated current (A) per pump 3~ 400 V	Approx. weight (kg)
FC II Duo 15-40	18	4.70	6.00	2	2 x Rp 2/2x Rp 2	4.00	7.40	410.00
FC II Duo 15-50	18	6.20	7.70	2	2 x Rp 2/2x Rp 2	5.50	10.00	490.00
FC II Duo 15-60	18	7.40	9.30	2	2 x Rp 2/2x Rp 2	7.50	13.30	495.00
FC II Duo 15-70	18	8.60	10.90	2	2 x Rp 2/2x Rp 2	7.50	13.30	505.00
FC II Duo 15-80	18	9.90	12.50	2	2 x Rp 2/2x Rp 2	11.00	19.30	665.00
FC II Duo 15-90	18	11.20	14.10	2	2 x Rp 2/2x Rp 2	11.00	19.30	670.00
FC II Duo 15-100	18	12.50	15.60	2	2 x Rp 2/2x Rp 2	11.00	19.30	675.00
FC II Duo 40-20	36	4.20	5.00	2	2 x Rp 2/2x DN 80	7.50	13.30	500.00
FC II Duo 40-30-2	36	5.30	6.50	2	2 x Rp 2/2x DN 80	11.00	19.30	640.00
FC II Duo 40-30	36	6.60	7.80	2	2 x Rp 2/2x DN 80	11.00	19.30	645.00
FC II Duo 40-40-2	36	7.70	9.00	2	2 x Rp 2/2x DN 80	15.00	26.20	650.00
FC II Duo 40-40	36	8.70	10.10	2	2 x Rp 2/2x DN 80	15.00	26.20	680.00
FC II Duo 40-50-2	36	9.70	11.50	2	2 x Rp 2/2x DN 80	18.50	32.10	690.00
FC II Duo 40-50-1	36	10.40	11.90	2	2 x Rp 2/2x DN 80	18.50	32.10	705.00
FC II Duo 40-50	36	10.80	12.50	2	2 x Rp 2/2x DN 80	18.50	32.10	730.00
FC II Duo 40-60-2	36	12.00	14.00	2	2 x Rp 2/2x DN 80	18.50	32.10	740.00
FC II Duo 40-60	36	13.00	15.00	2	2 x Rp 2/2x DN 80	22.00	38.10	780.00

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Order information

Feuercell FC II 15-40 to FC II 40-60

Type	Article no.	Type	Article no.
FC II 15-40	567.1504.200	FC II 40-20	567.4002.020
FC II 15-50	567.1505.200	FC II 40-30-2	567.4003.220
FC II 15-60	567.1506.200	FC II 40-30	567.4003.020
FC II 15-70	567.1507.200	FC II 40-40-2	567.4004.220
FC II 15-80	567.1508.200	FC II 40-40	567.4004.020
FC II 15-90	567.1509.200	FC II 40-50-2	567.4005.220
FC II 15-100	567.1510.200	FC II 40-50-1	567.4005.120
		FC II 40-50	567.4005.020
		FC II 40-60-2	567.4006.220
		FC II 40-60	567.4006.020
Commissioning (Net)	INBK02		

Feuercell FC II Duo 15-40 to FC II Duo 40-60

Type	Article no.	Type	Article no.
FC II Duo 15-40	562.1504.200	FC II Duo 40-20	562.4002.020
FC II Duo 15-50	562.1505.200	FC II Duo 40-30-2	562.4003.220
FC II Duo 15-60	562.1506.200	FC II Duo 40-30	562.4003.020
FC II Duo 15-70	562.1507.200	FC II Duo 40-40-2	562.4004.220
FC II Duo 15-80	562.1508.200	FC II Duo 40-40	562.4004.020
FC II Duo 15-90	562.1509.200	FC II Duo 40-50-2	562.4005.220
FC II Duo 15-100	562.1510.200	FC II Duo 40-50-1	562.4005.120
		FC II Duo 40-50	562.4005.020
		FC II Duo 40-60-2	562.4006.220
		FC II Duo 40-60	562.4006.020
Commissioning (Net)	INBK02		

Accessories/supplements

Type	Article no.
Rubber expansion joint DN 50	503.5200.050
Rubber expansion joint DN 80	503.5200.080
Automatic transfer switch 7.50 kW	569.9500.007
Automatic transfer switch 11.00 kW	569.9500.015
Automatic transfer switch 15.00 kW	569.9500.015
Automatic transfer switch 18.50 kW	569.9500.018
Automatic transfer switch 22.00 kW	569.9500.022
Overvoltage protection (lightning protection)	567.9004.000
GSM emergency phone line	567.9001.000
Drinking water isolation Rp 2"	567.9002.050
Drinking water isolation DN 65	567.9002.065
Drinking water isolation DN 80	567.9002.080
Drinking water isolation DN 100	567.9002.100
Pressure reducing disc, stainless steel, variabel	567.9005.010
Pressure reducing disc, stainless steel, 10 mm	567.9005.110
Pressure reducing disc, stainless steel, 11 mm	567.9005.111
Pressure reducing disc, stainless steel, 12 mm	567.9005.112
Pressure reducing disc, stainless steel, 13 mm	567.9005.113
Pressure reducing disc, stainless steel, 14 mm	567.9005.114
Pressure reducing disc, stainless steel, 15 mm	567.9005.115

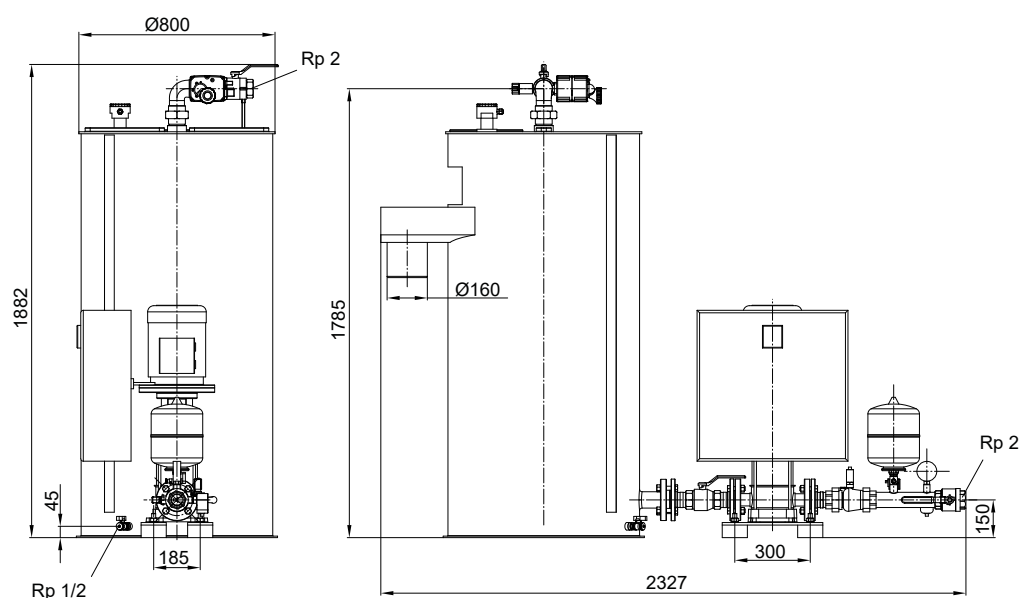
Order information

Accessories/supplements

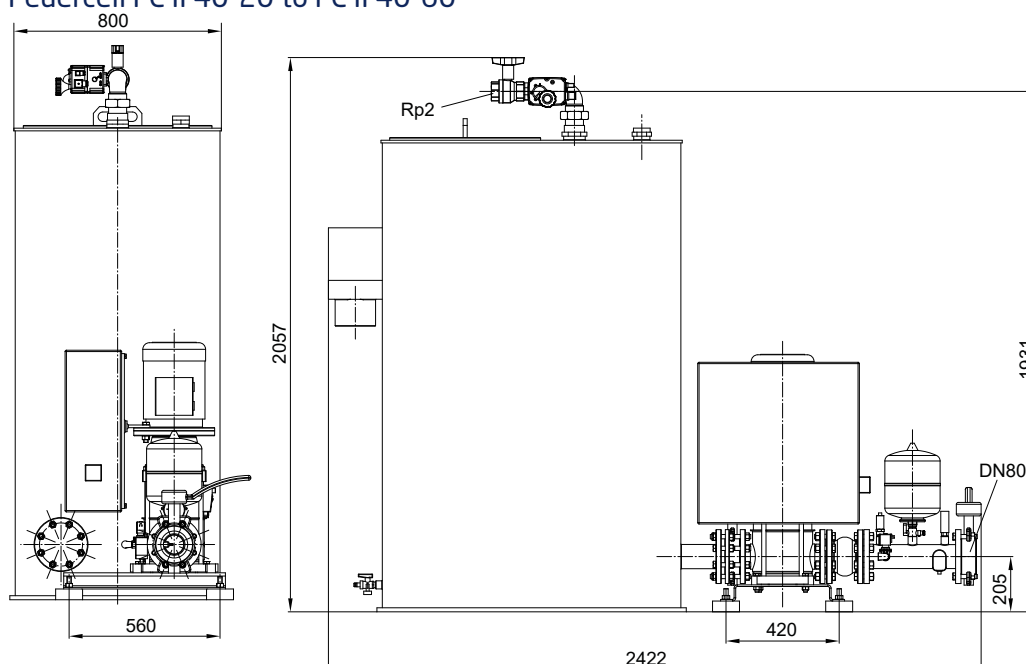
Type	Article no.
Pressure reducing disc, stainless steel, 16 mm	567.9005.116
Pressure reducing disc, stainless steel, 17 mm	567.9005.117
Pressure reducing disc, stainless steel, 18 mm	567.9005.118
Pressure reducing disc, stainless steel, 19 mm	567.9005.119
Pressure reducing disc, stainless steel, 20 mm	567.9005.120
Pressure reducing disc, stainless steel, 21 mm	567.9005.121

Dimensions

Feuercell FC II 15-40 to FC II 15-100



Feuercell FC II 40-20 to FC II 40-60

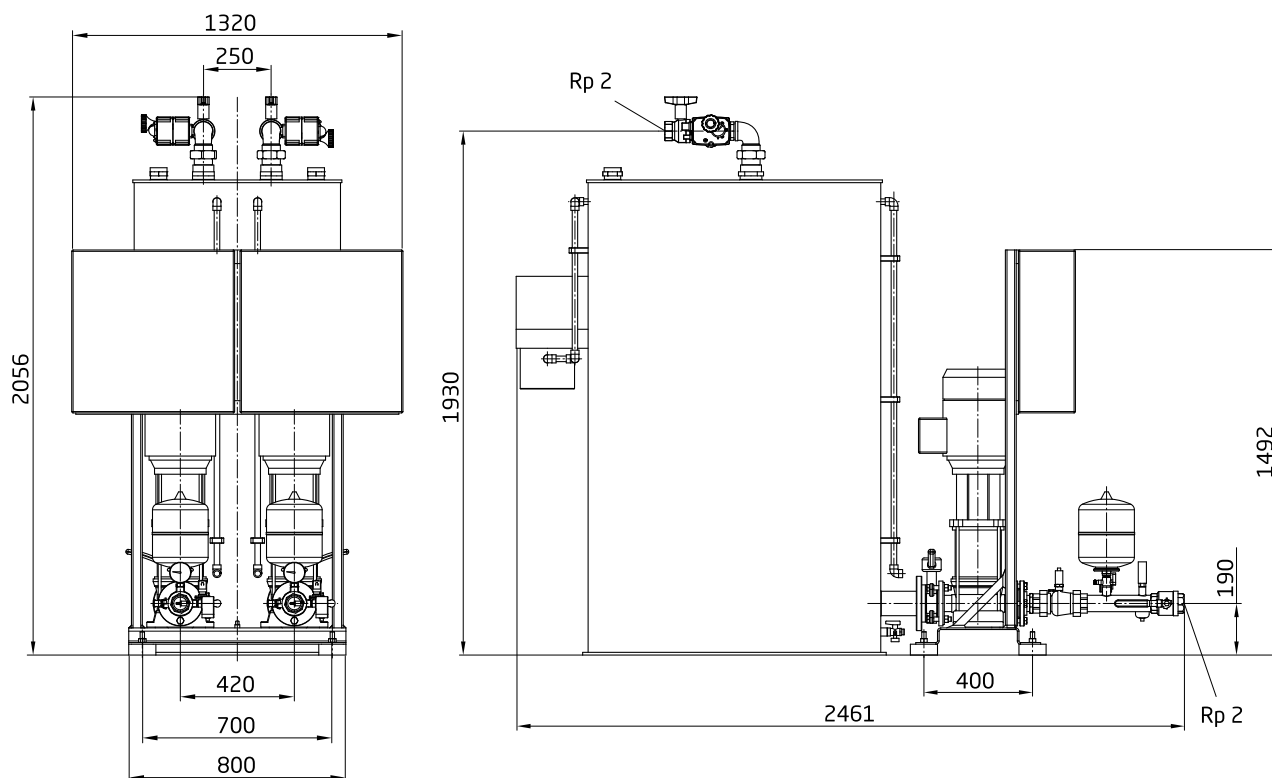


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Dimensions

Feuercell FC II Duo 15-40 to FC II Duo 15-100



Feuercell FC II Duo 40-20 to FC II Duo 40-60

