FC I DUO 40

FC I Duo 40-20

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Description

Druckerhöhungsanlagen der Baureihe Feuercell DUO sind speziell für die Versorgung von Hydrantenanlagen gemäß DIN 14462 entwickelt und konstruiert. Egal ob für Über- / Unterflurhydranten, Wandhydranten, mit Vorlagebehälter oder zum Anschluss an bauseitige Löschwasserbehälter, bei Speck ist eine DIN konforme und sichere Löschwasserversorgung garantiert!

Areas of use

Firefighting water supply Network separation Irrigation Water supply

Version

Fully automatic pressure boosting systems according to DIN 14462, fire water transfer point according to DIN 1988-600. All systems are wired and fully piped (on a base frame with rubber buffers). All units feature a fully automatic pump control system including a frequency converter. Depending on the version (FC I or II), a pressureless pre-filled tank is included. The Feuercell FC Duo fire water system is designed redundantly. Pumped medium: Clear liquids that do not chemically or mechanically attack the system materials. Functional description: The systems are automatically switched on by a pressure transmitter located on the discharge side. They are switched off by a flow sensor located on the discharge side. An 8-liter diaphragm pressure accumulator is installed in the pressure line as the control tank. All systems are supplied with an electrical switch-off delay (overrun) to ensure a minimum pump runtime. The make-up and dry-run protection are controlled by a submersible pressure sensor in the pre-filled tank. Water make-up and flushing are achieved via a motorized ball valve. A battery in the control cabinet closes the ball valve in the event of a power failure. A temperature sensor protects the centrifugal pump from overheating, and a solenoid valve on the pressure side ensures a minimum flow rate. All relevant contactors are monitored for wire breaks and short circuits. A weekly test run is included in the control system. Project Planning Notes The following information is intended – without claiming to be exhaustive – to consider the relevant points related to the pressure boosting system when planning hydrant systems in accordance with DIN 14462. The information (flow rate and pressures) for the planning and installation of fire extinguishing and fire protection systems is contained in the fire protection concept (proof of preventive fire protection in the building documents). If such a concept is not available, the information can be obtained from the authorities responsible for fire protection, e.g., the building inspectorate, the fire department, or fire protection experts. If redundancy is required for reasons of firefighting water availability, two pressure boosting systems must be provided, each of which must provide the required amount of extinguishing water. Likewise, all actuators, measuring, and control elements must be duplicated. The electrical supply line must be used exclusively to supply the pressure boosting system. For multi-pump systems, a separate supply line must be provided for each pump. Several pumps can be in operation simultaneously or start simultaneously or at different times. This must be taken into account when dimensioning the cables and designing the fuses/emergency power generators. The electrical line must be installed with E90 functional integrity. The requirements

derived from the model wiring system guidelines of the individual federal states apply. In the case of indirect connection, an external water supply for the fire department, consisting of a feed-in device in accordance with DIN 14461-2, must be available to ensure firefighting readiness. For building heights greater than 30 m, the external water supply is fed into the fire water system's storage tank via an inflow control valve. Pressure boosting systems for firefighting purposes may only be used to supply the connected fire hose connection devices and above-ground and underground hydrants. The supply of other consumers, such as garden irrigation, and the use of fire pumps for purposes other than fire water supply, such as drainage, is not permitted. The installation room must be adequately secured against unauthorized access by third parties, well ventilated, not used for any other purpose, and frost-free. An average temperature of more than 35°C must not be exceeded. The installation room must be separated from other fire compartments in a fire-rated environment (F90) without a fire load. Installation rooms for fire water transfer points must be designed to prevent flooding. Adequate drainage or a floor drain must be provided.

Material short text

Feuercell FC I Duo 40-20, 3~ Zulaufbetr.

Technical data

Hydraulic power

Flow rate	36 m³/h
Head (min.)	42.828 – 50.986 mWS
Operating pressure max.	16 bar
Number of pumps	2 St

Motor & drive

Speed (max.)	2,850 min-1
Motor phases	3~
Degree of protection	IP 55
Insulation class	F

Electrics

Power output P_2 (max.)	7.5 kW
Voltage (max.)	3~ 690/400 V ± 10 %
Input voltage	400 V
Frequency	50 Hz

Energy efficiency

Energy efficiency class	IE3

General / Product features

Certification	DIN 14462, Löschwasserübergabestelle gemäß DIN 1988-600, DVGW Anschlusssicher W 540

Operating conditions & water

Ambient temperature (min.)	35 ° C

Connections & piping

Connection, inlet / suction side	2 x DN80
Connection, discharge side	2 x DN80

Dimensions & logistics

Net weight	459 kg
Gross weight	509 kg
Customs tariff number	84798997