

Hydraulic Power Unit Type HV200

- **Designed for rugged operation**
- **Customized hydraulic system for each application**
- **Serves multiple control valves**
- **2 independent pressurizing pumps**
- **Self-contained filter system**



Application

The hydraulic power unit supplies the necessary pressurized hydraulic fluid for the actuators. The HV200 unit is designed for small to medium hydraulic systems.

Design

Accumulator

The hydraulic power unit is equipped with one accumulator to cover peak requirements. It is mounted to the sidewall of the hydraulic power unit.

Motor-pump units

Because of the accumulator, the pump is designed for mean consumption only. However, there are two motor-pump units (each with an accumulator charging valve), of which one is in operation while the other one is standby.

Tank

The tank has sufficient capacity to allow for complete drainage of the accumulator, pipes and actuators into the tank.

Filter

An off-line filter unit with cooler is installed on top of the tank. It is self-contained and comprises of a pump with an electric motor, a cooler with a fan and a filter. The unit can also be used to fill and empty the tank by switching over a multi-way valve. Due to its self-contained design, the filter element can be changed during operation of the hydraulic power unit.

Oil Heater

If required, the power unit can be fitted with a heater.

Hydraulic Power Unit Controller

A control box on the top of the power unit contains controller, power switches and display elements necessary for operation.

The Power Unit is ready for operation after the connection to the electric power supply.

Function

Hydraulic Power Unit

The internal gear pump draws the hydraulic fluid from the tank and pumps it into the accumulator. As soon as the pressure in the accumulator has risen to 24 MPa, the accumulator charging valve switches the pump over to circulation, i. e. the pump discharges back into the tank through the accumulator charging valve at practically no pressure.

A non-return valve prevents the hydraulic fluid from flowing back out of the accumulator. If the pressure in the accumulator drops by 10%, the charging valve switches over and the accumulator are charged again. A pressure reducing valve, downstream of the accumulator, supplies oil to the actuators at a constant, controlled system pressure.

If a fast-stroking unit with accumulator is fitted, a connection is provided to charge the additional accumulator. The required supply pressure can be adjusted.

In case of excessive temperature rise a fan starts, and switches off as soon as the temperature decreases by approximately 5°C.

Should the hydraulic fluid overheat or the hydraulic fluid level in the tank be too low, both motor-pump units are switched off.

If the power unit is equipped with a heating system, the control system switches the latter on or off, depending on the temperature of the hydraulic fluid.

If the pump fails to charge the accumulator the other pump automatically starts and switches off as soon as the pressure is normal.

If there is an abnormality, the system is automatically switched over to the other motor-pump unit and a corresponding alarm is given.

If the accumulator pressure drops too low, an alarm indicates hydraulic power unit failure. Accumulator and pump are protected by a pressure relief valve. A second pressure relief valve protects the system pressure.

Control System

The control system covers the following functions:

- switching of the accumulator charging valve
- starting of the stand-by pump
- change of the operating pump
- start of the cooling fan
- stop of the heater
- generating alarm and message signals

The customer has only to connect electric supply and I/O signals.

The regeneration unit used for Fyrquel is powered and fused through the control cabinet. The supply cable of the regeneration unit has to be connected to the control cabinet.

Signalisation

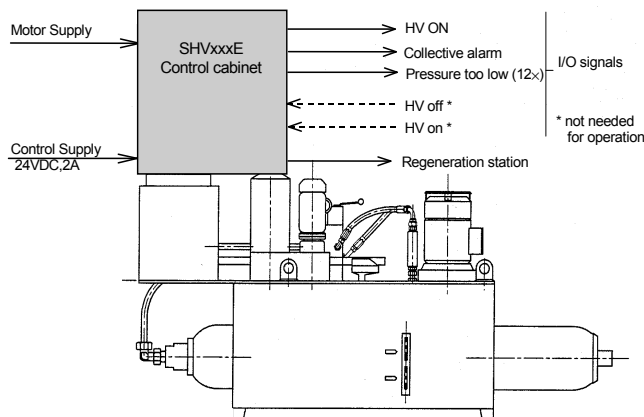
Operational conditions and malfunctions are displayed on the display elements in the cabinet door. Malfunction-messages are always stored.

When malfunction-messages occur, they are displayed on the cabinet door and the collective malfunction-signal is given.

When the malfunction is cleared, the pumps and fan will start automatically. The malfunction message will be kept stored until the operator has checked the HPU locally and reset the malfunction message with the reset button (S21, Reset).

Following signals are available as contact:

- HV ON (SPDT contact)
- Collective malfunction (SPDT contact)
- Pressure too low (Relay de-energizes if a malfunction occurs; 12 normally-open contacts for blocking the connected hydraulic actuators)



Technical Specification

Available system pressure	max. 160 bar
Hydraulic fluid	Mineral oil DIN51525 Fire retardant fluid (Phosphate ester type)
Tank capacity	310 liter
Ambient temperature range	-10...50 °C Designed for outdoor installation, sun protection recommended
Sound pressure level	< 75dBA @ 1m
Pumps	
Discharge rate	8.4 l/min
Type	Internal gear pump
Motors	
Power supply	3 x 380...420 V, 50 Hz or 3 x 440...480 V, 60 Hz (other voltages upon request)
Pump motors	2 x 4.0 kW / 50 Hz or 4.6 kW / 60 Hz
Filter motor	1 x 0.37 kW / 50 Hz or 0.42 kW / 60 Hz
Fan motor	1 x 0.18 kW / 50 Hz or 0.20 kW / 60 Hz
Design according to	IEC 34-1
Protection class	IP 55
Isolation class	F
Lubrication (motor)	For life, lithium based grease
Bearing	Ball bearing, pre-charged
Humidity protection	100% (Tropical)
Accumulator	
	Gas bladder type, locally mounted
Nominal capacity	50 liter
Max. permissible pressure	330 bar
Approval	CE (others upon request)
Gas	Nitrogen
Filter	
	Standard, self contained type (electric motor, pump, filter, clogging indicator)
	Filtration degree $\beta_{10} > 200 \mu\text{m}$
	Air breathing filter on tank
Sensors	
	Level
	Pressure
	Temperature
Oil cooler	
	Standard
Control and Monitoring unit	
	SHV
Interference immunity	CE-conform
Protection level	IP65
Wiring	
	Completely wired
	Power supply for regeneration unit (when operated with fire retardant oil)

Optional scope of supply

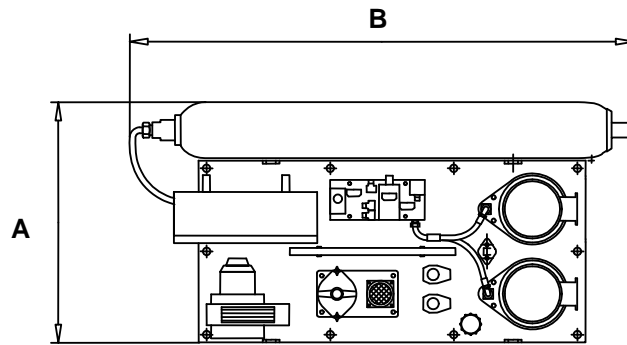
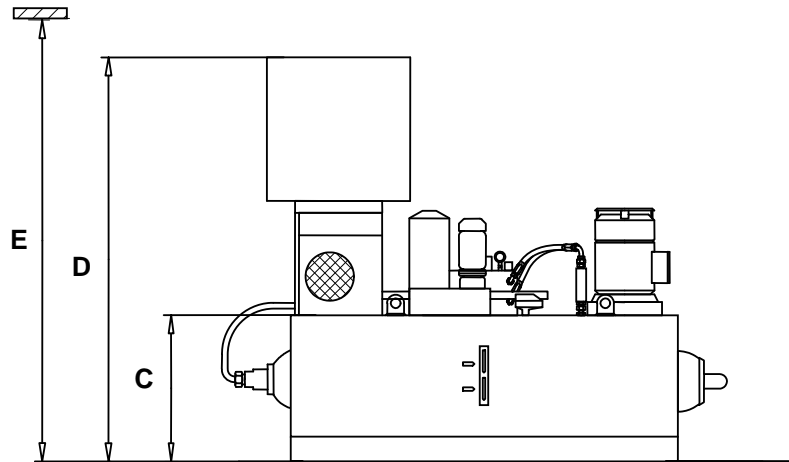
Oil heater

Oil drip tray

Regeneration unit (when operated with Phosphate ester fluid)

Dimensional Information

Outline Dimensions		mm
A	950	
B	2020	
C	600	
D	1700	
E	2200	
Weight		505 kg



CCI Switzerland

Im Link 11
P.O. Box
CH-8404 Winterthur
Telephone ++41 52 264 95 00
Telefax ++41 52 262 95 01

CCI KK Japan

6-2-2 Takasukadai, Nishi-ku Kobe City
Hyogo 651-2271
Japan
Telephone ++81 78 991 59 10
Telefax ++81 78 991 59 00

CCI RSM - World Headquarter

22591 Avenida Empresa
Rancho Santa Margarita
CA 92688, U.S.A.
Telephone ++1 949 858 18 77
Telefax ++1 949 858 18 78

CCI Korea

10F, Shinwon B/D,
210-1, Hangango-2GA, Yongsan-Gu
Seoul, 140-012 Korea
Telephone ++82 31 980 99 60
Telefax ++82 2 792 1878

CCI Sweden

Industriegatan 1-3, Box 603
SE-661 29
Säffle, Sweden
Telephone ++46 533 689 600
Telefax ++46 533 689 601

CCI Austria

Lembockgasse 63/1
AT-1233 Vienna, Austria
Telephone ++43 1 869 27 40
Telefax ++43 1 865 36 03