

Data Sheet

Steering

EHi Steering Valve

Danfoss Electrohydraulic In-line Steering Valve (EHi) is intended for off-road use. The EHi is designed for easy integration in new vehicles, as well as upgrading existing vehicles.

EHi with PVED-CLS actuator module form a fail-safe steering valve, category 3 according to ISO 13849-1. EHi fitted with PVED-CLS actuator, as well as a full steering subsystem specification, has a 3rd party certification available.

The EHi is a flexible alternative to Danfoss OSPE, for vehicles where space around the steering unit is particularly limited.

The EHi may be applied for fail-safe Steer-by-Wire applications, joystick or mini wheel for slow moving vehicles. Four-wheel steering, the EHi may be applied for steering the rear axle, for vehicles where fail-safe operation is acceptable.



Features

Valve options

- Integrated priority valve, 45 or 90 l/min
- Flow range selections 12, 20, 30, 40, 50 or 70 l/min
- Port thread metric DIN 6149-1

Control options

- Full feature steering and safety controller PVED-CLS
 - Auto guidance ISO 11783 – Variable displacement / quick steering
 - Joystick interface – Mini wheel interface
 - Safety functions – PLd / SIL2
 - Hydraulic disengage – CAT 3 fail-safe steering
- CAN bus - flow command PVED-CC
- Analogue ratio-metric PVES

Hydraulic system configurations

- Load sense reaction and non-reaction
- Load sense static and dynamic
- Open center reaction and non-reaction
- Closed center

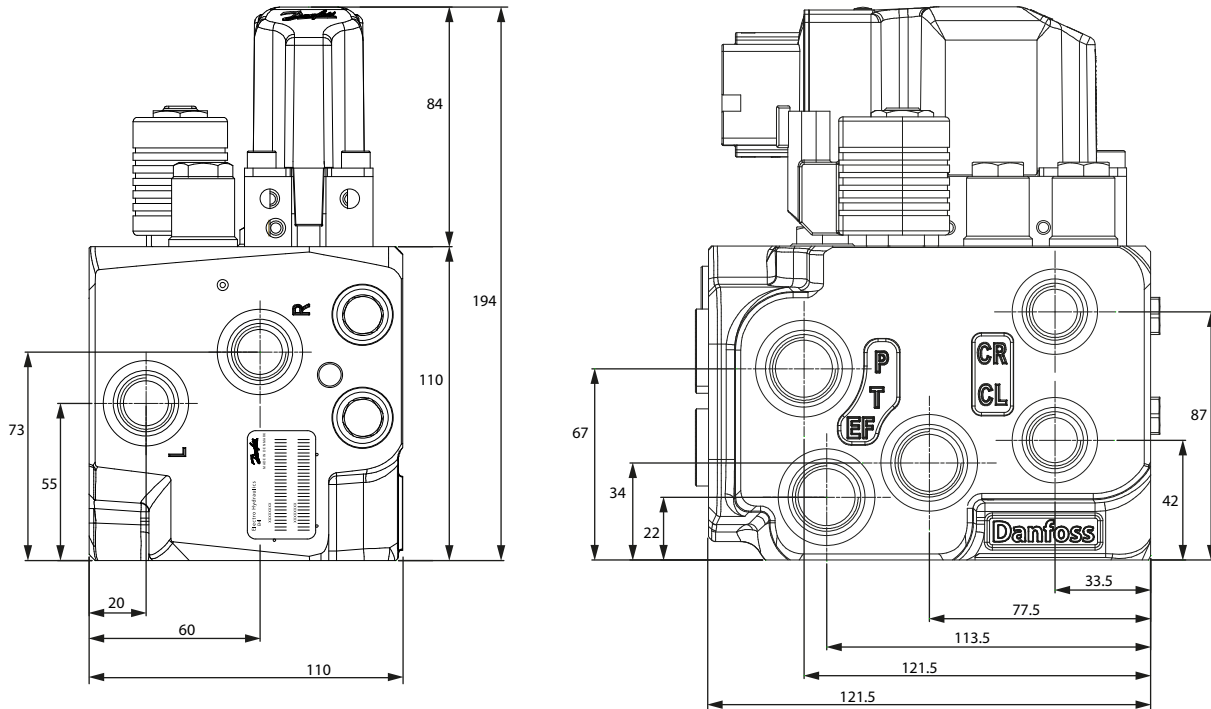
Compliance (with PVED-CLS)

- IEC 61508-1(ed.2) (SIL2)
- IEC 61508-2(ed.2) (SIL2)
- IEC 61508-3(ed.2) (SIL2)
- ISO 25119-1:2018
- ISO 25119-2:2019
- ISO 25119-3:2018
- ISO 25119-4:2018
- ISO 13849-1:2008 (up to Cat 3, PLd)
- ISO 13849-2:2012 (up to Cat 3, PLd)

Comprehensive technical literature is online at www.danfoss.com

Dimensions

Outline dimensions in millimeters



rp1484516161594

Technical data

Steering flow	12, 20, 30, 40, 50, 70 l/min
Max. system pressure	210 bar (280 bar)
Max. back pressure (T-port)	25 bar
Priority valve flow	45 and 90 l/min
PVE actuators	PVED-CLS, PVED-CC, PVES
Weight	11.2 kg (24.7 lbs).



EHi standard configurations

- OEM installation
- SBW fail-safe
- Rear axle / 4WS
- GPS universal

Configurations	OEM installation						SBW / 4WS	4WS	GPS Universal	
	EHi-1	EHi-2	EHi-3*	EHi-4	EHi-5	EHi-6	EHi-7	EHi-8	EHi-9 ¹	EHi-10 ¹
<i>Hydraulic Circuit</i>	Load Sensing	Open Center	Closed Center	Load Sensing	Load Sensing	Load Sensing	SBW fail-safe / 4 Wheel Steering	4 Wheel Steering	Load Sensing (Static and Dynamic) With/Without Reaction	Open Center With/Without Reaction
<i>Feature</i>										
EH w. PVES, D CC, CLS	•	•	•	•	•	•	•	•	•	•
Cut-off valve	•	•	•	•	•	•	•	•	•	•
Relief valve	•	•	•	•	•	•	•	•	•	•
Priority valve		•	•	•	•		•	•		•
Shock-suction valves					•	•	•	•	•	•
PVFC LS resolver valve	•			•	•	•			•	•
Reaction Switch Valve for reaction (RSV)					•	•			•	•
OSP override on RSV					•	•			•	•
LS shuttle (SBW or 2WS)								•		
EF and T internally connected				•						
Disengage without SASA (hydraulic disengage)**									•	•
Electrical disengage, for example, by SASA	•	•	•	•	•	•	•	•		

* Contact Danfoss Power Solutions for information.

** Variable steer mode is not available when using hydraulic disengage.