1.5

HVS(E) SERIES

FLOW SHARING VALVE

HVSE:

Nominal size	04	09	12	18	25
Rated pressure(bar) Pump/actuator side	250/270	280/300	320/340	320/340	350/400
Rated flow(L/min)	40	90	120	180	300

Benefits:

- High efficiency
- Less volume, lighter weight
- Precise controllability
- Low pressure drop, less fuel consumption
- Comfort and coordination

Contents

	Page
Features	03
Section view	04
Technical data	05
Ordering code	06
Characteristic curves	07
HVSE 04 Hydraulic diagram and Unit dimensions	08-09
HVSE 09 Hydraulic diagram and Unit dimensions	10-11
HVSE 12 Hydraulic diagram and Unit dimensions	12-13
HVSE 18 Hydraulic diagram and Unit dimensions	14-15
HVS 25 Hydraulic diagram and Unit dimensions	16-17
Port Connection	18-19

Features

1. System:

Load pressure independent flow distribution

· Boom and Arm anti-drop valve (except for HVSE 04)

· Regeneration capability (except for HVSE 04 and HVSE 09)

· Low control pressure, ΔP=15bar

· Adjustable priority order of each movement

· Hydraulic pilot control

2. Structure

· Sandwich plate of design

3. Pressure

· LS relief valve

· Secondary pressure relief valve

4. Flow

· Load pressure compensated

· High repeatability accuracy

· Low hysteresis

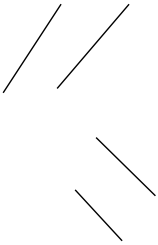
5. Applications

Excavators

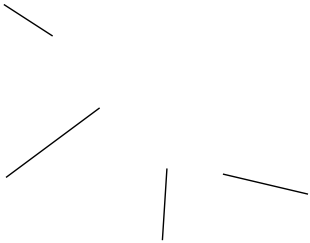
0.8-18 ton

Section view

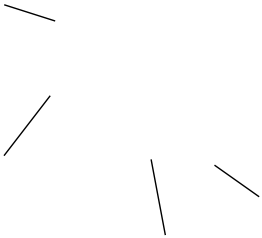
· HVSE 04



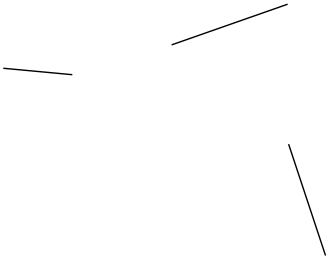
· HVSE 09



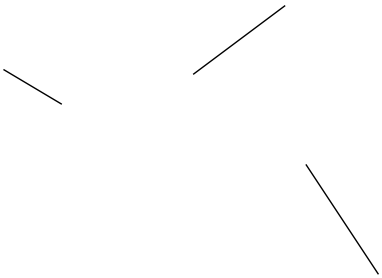
· HVSE 12



· HVSE 18



· HVS 25



1. Relief valve
2. Spool
3. Compensator valve
4. Load check valve

Technical data

General

Structure	Sandwich plate design				
Connection type	ISO 1179-1		JIS B2351-1		
Mass (kg)	Nominal Size				
	04(10 blocks)	09(8 blocks)	12(8 blocks)	18(8 blocks)	25(8 blocks)
	16.5kg	22kg	48kg	67kg	198.5kg
Unit dimensions (mm)	305 × 210.6 × 94.2	350 × 220 × 112	450 × 278 × 138	498 × 326 × 172	394 × 239 × 721.5

Hydraulic

Nominal Size		04	09	12	18	25
Rated flow	Q (L/min)	40 (ΔP=15bar)	90 (ΔP=15bar)	120 (ΔP=15bar)	180 (ΔP=15bar)	300 (ΔP=15bar)
Max. operating pressure at port	P /LS (bar)	250	280	320	320	350
	A/B (bar)	270	300	340	340	400
	T (bar)	30				
	TS (bar)	Less than 3				
Pilot pressure	a/b (bar)	Less than 35				

Using environment

Hydraulic fuid	Mineral oil (HL, HLP) according to DIN 51524. Other hydraulic fuids, such as HEES (Synthetic Ester) according to VDMA 24568.
Hydraulic fuid temperature range( )	-20 to +90
Viscosity range ν (mm^2/s)	10 to 380
Maximum permissible degree of contamination of the pressure fuid cleanliness class to ISO 4406 (C)	Class 20/18/15, we therefore recommend a filter with a minimum retention rate of $\beta 10 \geq 75$

(For applications outside above mentioned parameters, please consult our sales dept.)

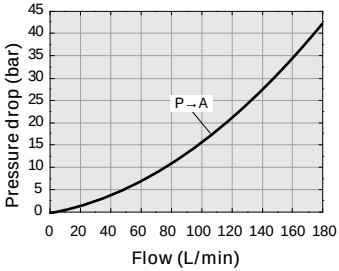
Ordering code

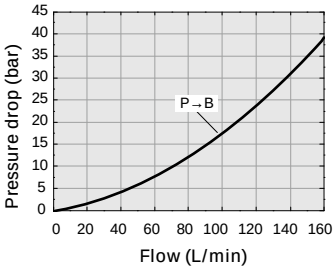
HVSE	–	18	–	08	–	P	L	L	320	–	B	E	001

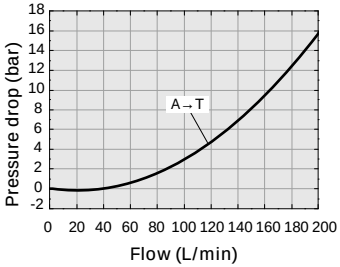
Structure	HVSE	(Size 04/09/12/18) Sandwich plate design, post pressure compensated
	HVS	(Size 25) Sandwich plate design, post pressure compensated
Nominal size	04	40 lpm (10.58 gpm)
	09	90 lpm (23.8 gpm)
	12	120 lpm (31.7 gpm)
	18	180 lpm (47.5 gpm)
	25	300 lpm (79.25 gpm)
Number of blocks	08	It can be increased or reduced according to the requirements of customers.
Pump relief valve	P	Without pump relief valve (with LS pressure relief valve)
Boom anti-drift valve	Blank	Without boom anti-drift valve
	L	With boom anti-drift valve
Arm anti-drift valve	O	Without arm anti-drift valve
	L	With arm anti-drift valve
Max. pressure in bar	320	(Size 04/09/12/18) 320bar, adjustable via the LS pressure relief valve
	350	(Size 25) 350bar, adjustable via the LS pressure relief valve
Circuit types	B	Closed center (Please refer to "Characteristic curves")
Connection dimensions types	E	English (BSP Pipe thread) (Please refer to "Port Connection")
	M	Other connection versions please contact us.
Design code	001	

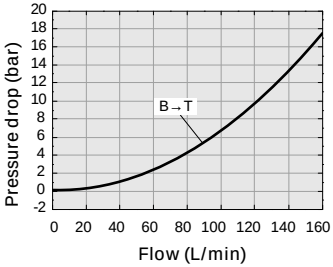
Characteristic curves Hydraulic oil : ISO VG46, T=50

·Pressure drop characteristic curve

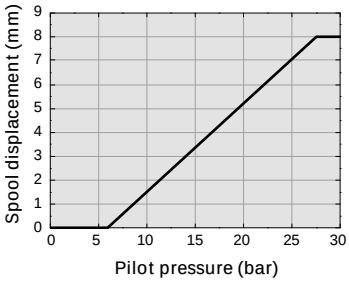








·Pilot pressure control curve



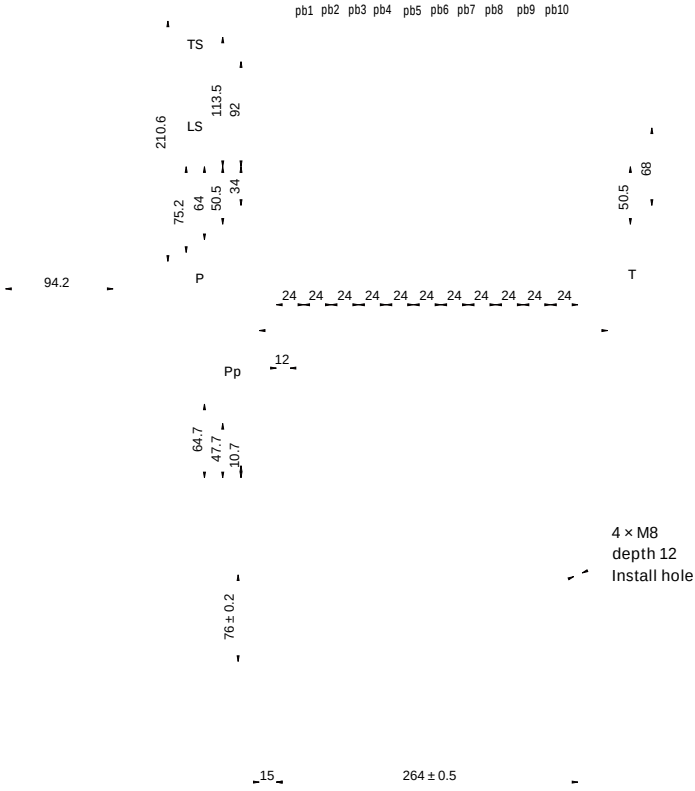
(*): Characteristic curves used the test results of HVSE 18 for example.

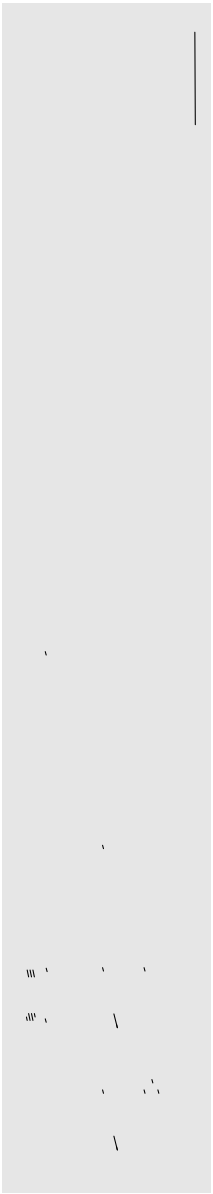
Hydraulic diagram

· HVSE 04

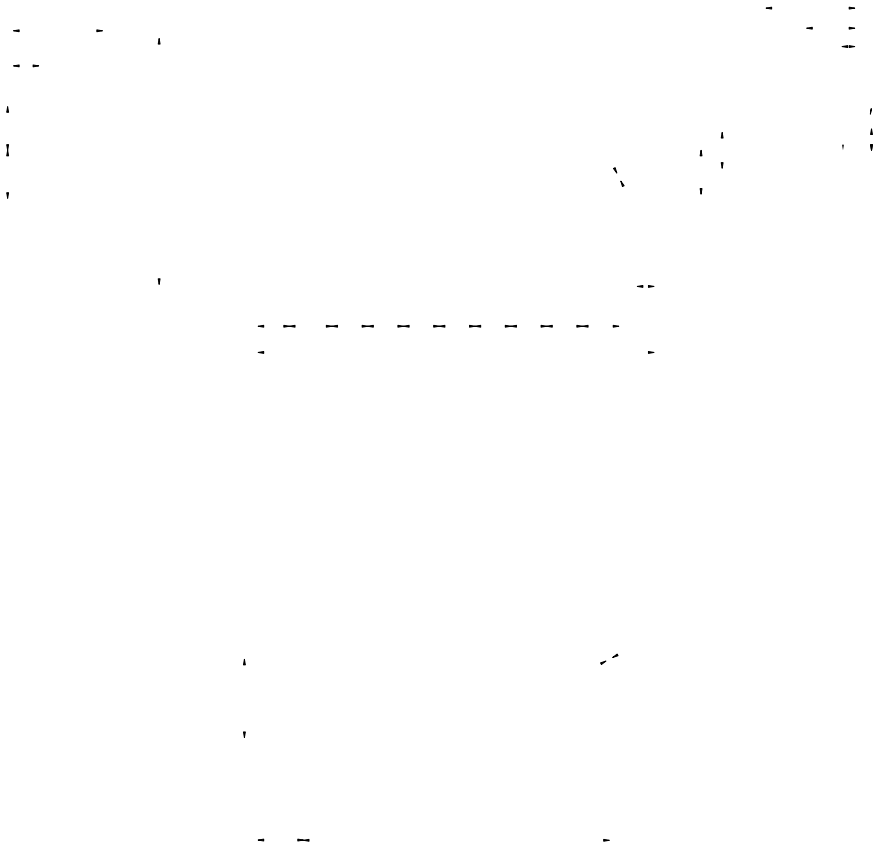
Unit dimensions

·HVSE 04



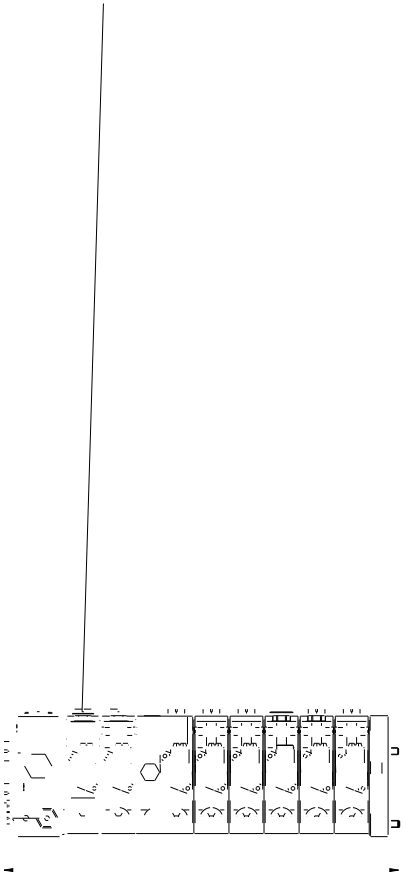


·HVSE 0940.5273.570111.660.54322.51319.529

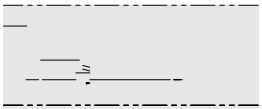


Unit dimensions

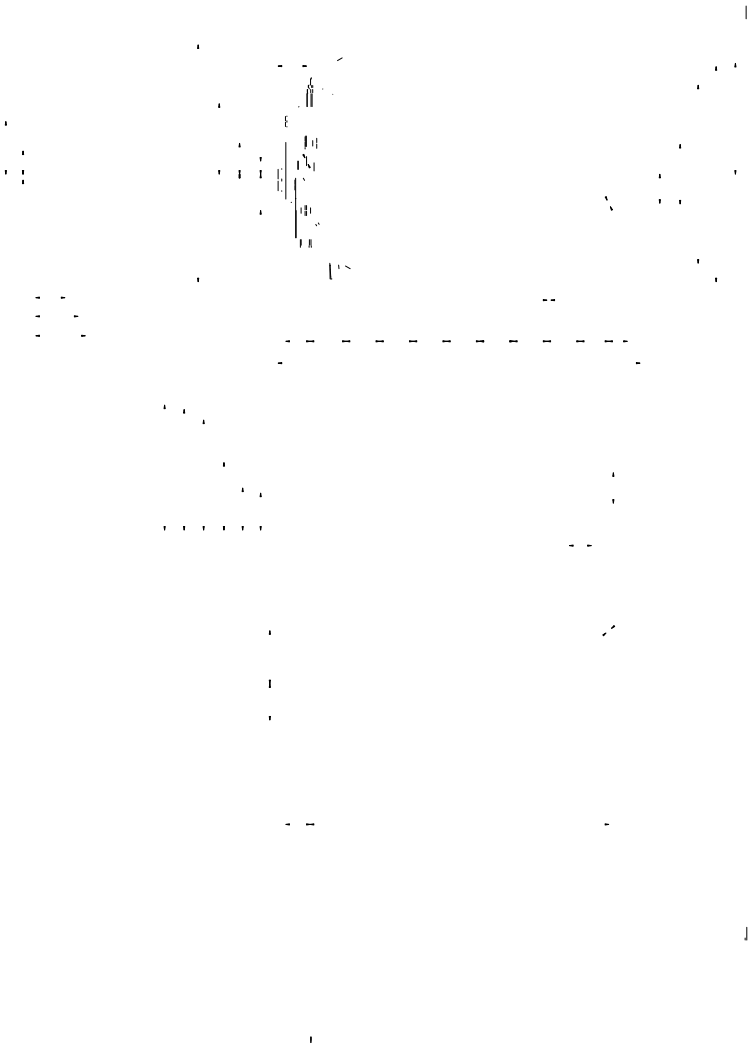
·HVSE 12



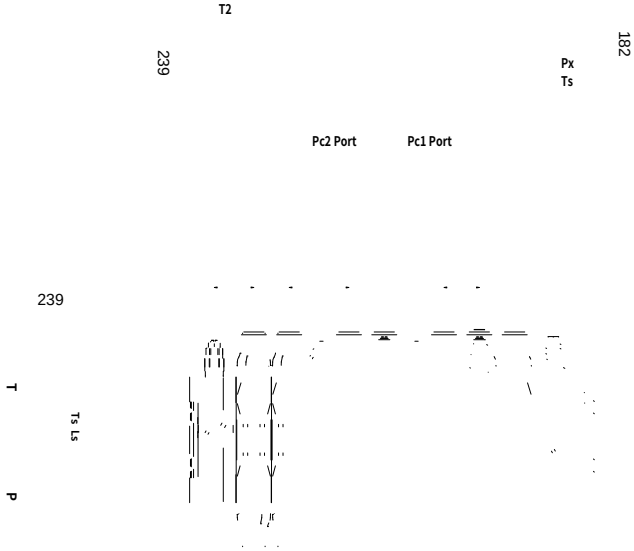
· HVSE 18



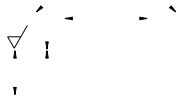
·HVSE 18



·HVS 25

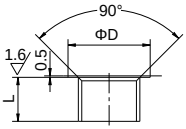


Port connection



	Port ISO 1179-1		Thread	ΦD	L
HVSE04	P, T	Inlet port Outlet port	G3/8	28	12
	A / B LS Ts Pp	Work port Load sense port TS Port Pp Port	G1/4	20	12.5
	a / b	Pilot port	G1/8	**15**	**8.5**
	Port ISO 1179-1		**Thread**	**ΦD**	**L**
HVSE09	P, T1, T2, T3	Inlet port Outlet port	G1/2	28	15
	A / B	Work port	G3/8	23	12.5
	a / b LS1, LS2 TS1, TS2 Pp	Pilot port Load sense port TS Port Pp Port	G1/4	20	12.5
	Port JIS B2351-1		**Thread**	**ΦD**	**L**
HVSE12	P, T	Inlet port Outlet port	G3/4	45	20
	A / B	Work port	G1/2	34	16
	a / b LS Ts Pp	Pilot port Load sense port TS Port Pp Port	G1/4	24	12
HVSE18	P, T	Inlet port Outlet port	G1	51	21
	A / B	Work port	G3/4	45	20
	a / b LS Ts Pp	Pilot port Load sense port TS Port Pp Port	G1/4	24	12
HVS25	A2 B2 A3 B3 A7 B7	Work port	G1	51	21
	T2	Outlet port	G3/4	45	20
	Ts	TS Port	G3/8	28	12
	a / b LS Pp Px Pc1 Pc2 PA PB PT	Pilot port Load sense port Pp Port Px Port Pc1 Pc2 Port PA Port PB Port PT Port	G1/4	24	12

Port connection

		Port SAE J518		Nominal flange size	ΦD	L1	L2
	**HVS25**	(A1) (B1) A4 B4 A5 B5 A6 B6 P1 (P2)	Inlet port Work port	1'	25.4	52.4	26.2
		T1	Outlet port	1-1/4'	31.8	58.7	30.2