

TYPE CODE

K4VS		O 125DR			/	10 R		-	P P		B 13		N00	
01	02	03	04	05	06	07	08	09	10	11	12			

HYDRAULIC FLUIDS

	40	71	80	125	180	200	250	355	370	500	
Mineral oil (HM) and HFD hydraulic fluid	●	●	●	●	●	●	●	●	●	●	
01 HFA, HFB and HFC hydraulic fluids	●	●	●	●	●	●	●	●	●	●	E
High-speed version	-	-	-	-	○	○	●	●	●	○	H

AXIAL PISTON UNIT

02 Swash-plate design, variable, nominal pressure p_N 350 [bar], maximum pressure p_{max} 400 [bar]	K4VS
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OPERATING MODE

03 Pump, open circuit	O
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SIZE

	40	71	80	125	180	200	250	355	370	500
04 Geometric displacement $q_{v,max}$ [mL/r]	40	71	80	125	180	200	250	355	370	500

CONTROL DEVICE

	40	71	80	125	180	200	250	355	370	500		
Manual control	●	●	●	●	●	●	●	●	●	○	MA	
Pressure control	●	●	●	●	●	●	●	●	●	●	DR	
Flow control	●	●	●	●	●	●	●	●	●	-	FR	
Power control	●	●	●	●	●	●	●	●	●	○	LR	
05 Hydraulic control	pilot-pressure related		○	○	○	●	●	●	●	●	●	HD
	control volume dependent		●	●	●	●	●	●	●	●	●	HM
	with proportional valve		●	●	●	●	●	●	●	●	○	HS4
Electric control			●	●	●	●	●	●	●	●	●	EO2
	with pressure controller and flow controller		○	○	○	●	●	●	●	●	○	DFE1Z
Two-point control	●	●	●	●	●	●	●	●	●	●	HFE	

SERIES

06 Standard	10
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DIRECTION OF ROTATION

07 View on drive shaft	clockwise	R
	counterclockwise	L

SEALING

08	[DIN ISO 1629] Fluoroelastomer (FKM) as shaft seals; Nitrile rubber (NBR) for others.	P
	[DIN ISO 1629] Fluoroelastomer (FKM), for operation with HFD hydraulic fluid	V

NOTE: ● available ○ upon request - unavailable ■ preferred

K4VS		O 125DR		/	10	R	-	P	P	B	13	N00
01	02	03	04	05	06	07	08	09	10	11	12	

DRIVE SHAFT

09	[DIN 6885] parallel keyed shaft	P
	[DIN 5480] splined shaft	Z

MOUNTING FLANGE

		40	71	80	125	180	200	250	355	370	500	
10	[ISO 3019-2] flange 4-hole	●	●	●	●	●	●	●	●	●	-	B
	8-hole	-	-	-	-	-	-	-	-	-	●	H

WORKING PORT

11	[SAE] working port B and suction port S offsets 90°; 2 nd working port B ₁ locates opposite to B; [DIN 13] metric fastening thread.	B ₁ plugged with stud end, B opens as working port	13
		B plugged with flange plate, B ₁ opens as working port	25

THROUGH-DRIVE

		40	71	80	125	180	200	250	355	370	500	
12	Single pump without through-drive	●	●	●	●	●	●	●	●	●	●	N00
	2 nd pump's flange 2 nd pump's splined shaft											
	With non-pressure-resistant or pressure-resistant plugged cover, prepared for through-drive	●	●	●	●	●	●	●	●	●	●	K99
	[ISO 3019-1] 82-2 [SAE A] ½"-9T-16/32	●	●	●	●	●	●	●	●	●	●	K01
	[SAE A-B] ½"-11T-16/32	●	●	●	○	○	○	○	○	○	○	K52
	[ISO 3019-1] 101-2 [SAE B] ¾"-13T-16/32	●	●	●	●	●	●	●	●	●	●	K68
	[SAE B-B] 1"-15T-16/32	●	●	●	●	●	●	●	●	●	●	K04
	[ISO 3019-1] 127-2 [SAE C] 1¼"-14T-12/24	-	●	●	●	●	●	●	●	●	●	K07
	[SAE C-C] 1½"-17T-12/24	-	-	-	●	●	●	●	●	●	●	K24
	[ISO 3019-1] 152-4 [SAE D] 1¼"-13T-8/16	-	-	-	-	●	●	●	●	●	●	K17
	[ISO 3019-2] 63-4 keyed shaft Φ25	●	●	●	○	○	○	○	○	○	○	K57
	[ISO 3019-2] 80-2 [SAE A-B] ½"-11T-16/32	○	●	●	○	○	○	○	○	○	○	KB2
	[ISO 3019-2] 100-2 [SAE B] ¾"-13T-16/32	●	●	●	●	●	●	○	○	○	○	KB3
	[SAE B-B] 1"-15T-16/32	●	●	●	●	●	●	●	●	●	●	KB4
	[ISO 3019-2] 125-2 [SAE C] 1¼"-14T-12/24	-	●	●	●	●	●	●	●	●	●	KB5
	[SAE C-C] 1½"-17T-12/24	-	-	-	○	○	○	○	○	○	○	KB6
	[ISO 3019-2] 180-4 [SAE D] 1¼"-13T-8/16	-	-	-	-	●	●	●	●	●	●	KB7
	[ISO 3019-2] 125-4 [DIN 5480] W32X2X14X9g	●	●	●	●	●	●	●	●	●	●	K31
	[ISO 3019-2] 140-4 [DIN 5480] W40X2X18X9g	-	●	●	●	●	●	●	●	●	●	K33
	[ISO 3019-2] 160-4 [DIN 5480] W50X2X24X9g	-	-	-	●	●	●	●	●	●	●	K34
	[ISO 3019-2] 224-4 [DIN 5480] W60X2X28X9g	-	-	-	-	-	-	●	●	●	●	K35
	[DIN 5480] W70X3X22X9g	-	-	-	-	-	-	-	●	●	●	K77
	[ISO 3019-2] 315-8 [DIN 5480] W80X3X25X9g	-	-	-	-	-	-	-	-	-	●	K43

NOTE: ● available ○ upon request - unavailable ■ preferred

01 HYDRAULIC FLUIDS

K4VSO pump is design for operation with [DIN 51524] HLP mineral oil. Selection of environmentally acceptable hydraulic fluids, or fire-resistant, water-free hydraulic fluids HFD, or fire-resistant, water-containing hydraulic fluids HFA/HFB/HFC is allowed but must be specified when ordering.

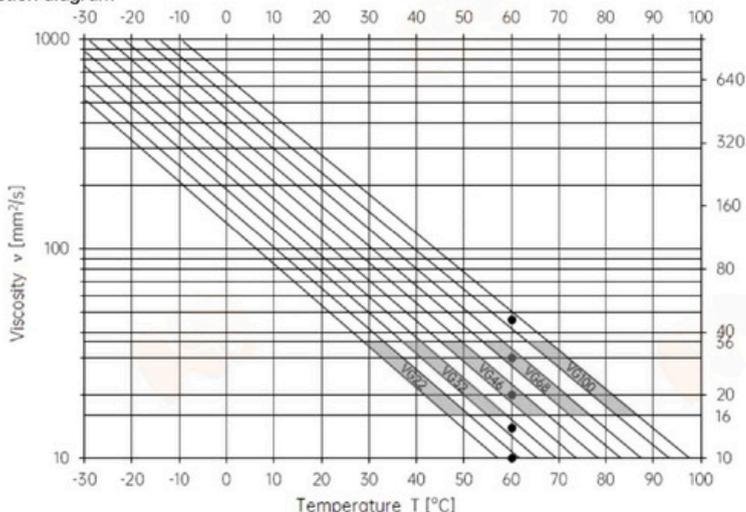
Please contact us if any technical parameter cannot be adhered to.

1. Viscosity and temperature of hydraulic fluids

Operation	Temperature	Viscosity	Remarks
Cold start	$t_{min} = -25^{\circ}\text{C} / -40^{\circ}\text{C}^*$	$v_{max} = 1600 \text{ mm}^2/\text{s}$	$t < 3 \text{ min}, p \leq 50 \text{ bar}, n \leq 1000 \text{ rpm}$
Warm-up		$v = 400 - 1600 \text{ mm}^2/\text{s}$	$t \leq 15 \text{ min}, p \leq 0.7 p_N, n \leq 0.5 n_{max}$
Continuous	$t_{max} = +110^{\circ}\text{C} / +85^{\circ}\text{C}^*$	$v = 10 - 400 \text{ mm}^2/\text{s}$	at port T
Short-term	$t_{max} = +110^{\circ}\text{C} / +85^{\circ}\text{C}^*$	$v_{min} = 7 - 10 \text{ mm}^2/\text{s}$	$t < 3 \text{ min}, p \leq 0.3 p_N$, at port T

NOTE: * NBR as shaft seals, please contact us.

2. Selection diagram



Before selection, figure out the relationship between ambient temperature and oil temperature in reservoir in an open circuit. Make sure that any temperature in system must NOT exceed 110 °C.

The hydraulic fluid should be selected so that the operating viscosity in the operating temperature range is within the optimum range $v_{opt} = 16 - 36 \text{ mm}^2/\text{s}$ (shaded area in selection diagram) and its viscosity grade should be as high as possible. For example: whereat oil temperature in reservoir is 60 °C, both viscosity grades VG46 and VG68 are within the optimum range (2 spots in shaded area of selection diagram), in this case, VG68 is preferred.

3. Filtration of hydraulic fluids

Finer filtration improves the cleanliness level of the hydraulic fluid, which increases the service life of the axial piston unit. An [ISO 4406] cleanliness level of at least 20/18/15 is to be maintained during continuous operation; In case of high temperature (90–115 °C) during short-term operation, cleanliness level of 19/17/14 is required.

4. Bearing flushing

Bearing flushing is required for a safe, continuous operation for the following operating conditions:

- Operation with borderline conditions for temperature and viscosity during operation with mineral oil;
- Application with special fluids (non-mineral fluids) due to limited lubricity and narrow operating temperature range;
- Recommended for lubricating the front bearing and the shaft sealing, with vertical installation and shaft upwards.

Bearing flushing is realized at port U in the area of front flange of the variable pump. The flushing fluid flows through the front bearing and discharges with the pump drain at the drain port T. Depending on individual sizes, the following flushing flows are recommended:

Size	40	71	80	125	180	200	250	355	370	500
	3	4	4	5	7	7	10	15	15	20

INSTALLATION INSTRUCTIONS

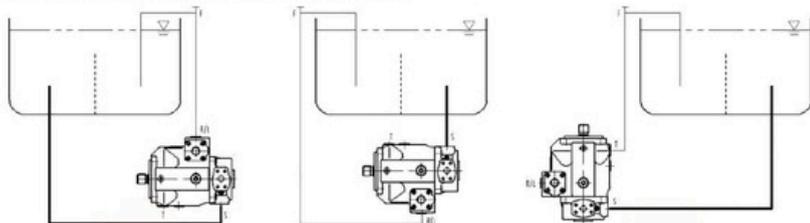
GENERAL

— The axial piston unit must be filled with hydraulic fluid and vented during commissioning and operation. This must also be observed during longer standstills, as the axial piston unit can empty itself via the hydraulic lines.

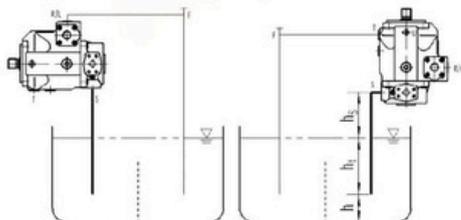
— Installation positions see the following examples 1-7. We recommend installation position 1 and 2.

Installation position	1	2	3	4	5	6	7
Filling	S+R/L	S+T	S+T+U	R/L+F	T+U+F	T+K ₁ /K ₂	R/L+T+K ₁ /K ₂
Air bleed	R/L+F	T+F	T+F	R/L+F	T+F	R/L	T+U

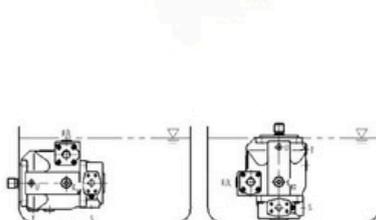
1) Below-reservoir installation, position 1-3 (standard)



2) Above-reservoir installation, position 4-5



3) Inside-reservoir installation, position 6-7



NOTICE

Installation dimension	Permissible suction height	Required immersion depth	Distance to reservoir bottom
Height limit	$h_{s,max}=800\text{mm}$	$h_{c,min}=200\text{mm}$	$h_{min}=100\text{mm}$

— Installation dimensions refer to position 5.

— Port F is part of the external piping and must be provided on customer side to make filling and air bleeding easier.

— For reservoir design, ensure that there is an adequate distance between the suction line and the drain line. Using a baffle plate in between can improve the air separation ability as it gives the hydraulic fluid more time for desorption, and prevent the heated returning flow from being drawn directly back into the suction line.

02 TECHNICAL DATA

1. Working pressure range (when using hydraulic fluid based on mineral oils)

Pressure	K4VSO	Remarks
Suction $p_{S, obs}$	0.8–30 bar	Minimum pressure at suction port S (inlet) is required to prevent damage to the axial piston unit.
Nominal p_N	350 bar	At working port B (outlet) corresponds to the maximum design pressure.
Maximum p_{max}	400 bar	At working port B (outlet) corresponds to the maximum working pressure within a single operating period.
Minimum p_{min}	15 bar	Minimum pressure at the working port B (outlet) is required to prevent damage to the axial piston unit.
Case p_L	$p_{S, obs} + 1.2 \text{ bar} \leq 4 \text{ bar}$	Case pressures at drain port T must be greater than the ambient pressure at shaft seals. A drain line to the reservoir is required.

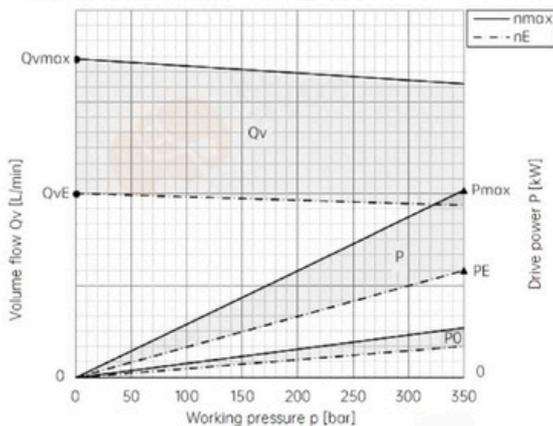
2. Other technical data

Parameter (in case)		Size		40	71	80	125	180	200	250(H)	355(H)	370	500(H)
Geom. displacement	$q_{V, max}$	mL/r		40	71	80	125	180	200	250	355	370	500
Rotational speed	$q_{V, max}$	n_{max}	rpm	2600	2200	2200	1800	1800	1700	1500 (1900)	1500 (1700)	1500	1320 (1500)
	q_V	$n_{max, all}$	rpm	3200	2700	2700	2200	2100	2000	1800 (2100)	1700 (1900) ⁴⁾	1700	1600 (1800)
Flow	n_{max}	$Q_{V, max}$	L/min	104	156	176	225	324	340	375 (475)	533 (604)	556	660 (750)
	$n_E^{1)}$	Q_{VE}	L/min	60	107	121	186	270	283	250	355	370	500
Power	n_{max} $\Delta p_N^{2)}$	P_{max}	kW	61	91	103	131	189	198	219 (277)	311 (352)	324	385 (437)
	$n_E^{1)}$ $\Delta p_N^{2)}$	P_E	kW	35	62	70	109	158	166	150	213	222	300
Torque	$\Delta p_N^{2)}$	T_{max}	Nm	223	395	395	696	1002	1002	1391	1976	1976	2783
	$\Delta p_E^{3)}$	T	Nm	64	113	113	199	286	286	398	564	564	795
Input torque	P_{shaft}	$T_{E, max}$	Nm	380	700	700	1392	1400	1400	2300	3557	3557	5200
	Z_{shaft}	$T_{E, max}$	Nm	446	790	790	1392	2004	2004	2782	3952	3952	5566
Through-drive torque	P_{shaft}	$T_{D, max}$	Nm	223	395	395	696	1002	1002	1391	1976	1976	2783
	Z_{shaft}	$T_{D, max}$	Nm	223	395	395	696	1002	1002	1391	1976	1976	2783
Rotary stiffness of drive shaft	P_{shaft}	c	kNm/rad	80	146	146	260	328	328	527	800	800	1145
	Z_{shaft}	c	kNm/rad	77	146	146	263	332	332	543	770	770	1136
Rotary moment of inertia	J	kgm ²		0.0049	0.0121	0.0121	0.03	0.055	0.055	0.0959	0.19	0.19	0.3325
Angular acceleration	α	rad/s ²		17000	11000	11000	8000	6800	6800	4800	3600	3600	2800
Case volume	V	L		2	2.5	2.5	5	4	4	10	8	8	14
Weight	m	kg		39	53	53	88	102	102	184	207	207	320
Center of gravity to mounting flange	l_i	mm		120	140	140	170	180	180	210	220	220	230

NOTE: (H) parameters for high-speed version; 1) $n_E=1500$ rpm for size 40–200 or $n_E=1000$ rpm for size 250–500; 2) $\Delta p_N=350$ bar; 3) $\Delta p_E=100$ bar; 4) Up to 2000 rpm when equipped with charge pump.

Parameter	Size	40	71	80	125	180	200	250(H)	355(H)	370	500(H)
 ± F_{ax} Axial force F _{ax,max} N		600	800	800	1000	1400	1400	1800	2000	2000	2000
 F_q Radial force (at a/2) F _{q,max} N		1000	1200	1200	1600	2000	2000	2000	2200	2200	2500

3. Drive power and flow (when using hydraulic fluid ISO VG 46 according to DIN 51519, t = 50 °C)



Characteristic curve

4 spots in figure locate respectively at $Q_{v,max}$, Q_{vE} , P_{max} , P_E . These can be found in table above.

An example for explanation for K4VSO 125:

- When at maximum speed $n_{max} = 1800$ rpm, the corresponding maximum flow $Q_{v,max} = 225$ L/min and maximum power $P_{max} = 131$ kW;
- When at nominal speed n_E

4. Determination of characteristics

Operation above the maximum values or below the minimum values may result in loss of function, reduced service life or destruction of the axial piston unit. Check out all the permissible values by means of following calculation, etc.

Parameter	Formula	Unit
Geometric displacement per revolution	q_v	[mL/r]
Differential pressure	$\Delta p = p - p_{s,obs}$	[bar]
Rotational speed	n	[rpm]
Volumetric efficiency	$\eta_v = \frac{Q_v}{Q_{v,theor}}$	[%]
Hydraulic-mechanical efficiency	η_{mh}	[%]
Total efficiency	$\eta_t = \frac{Q_v \times p}{600 \times P_{Q_v,max}} = \eta_v \times \eta_{mh}$	[%]
Flow	$Q_v = \frac{q_v \times n \times \eta_v}{1000}$	[L/min]
Torque	$T = \frac{q_v \times \Delta p}{20 \pi \times \eta_{mh}}$	[Nm]
Power	$P = \frac{2\pi \times T \times n}{60000} = \frac{Q_v \times \Delta p}{600 \times \eta_t}$	[kW]

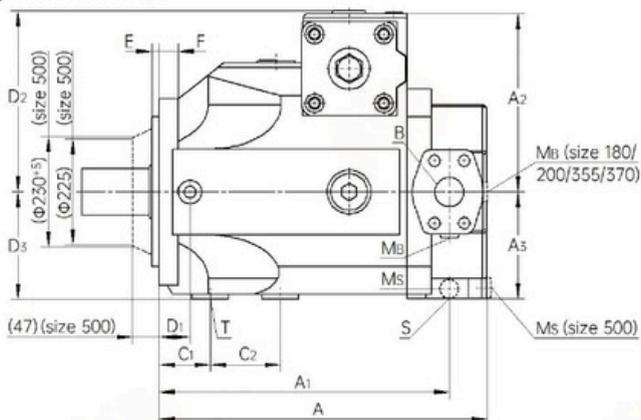
03 OPERATING MODE

K4VSO pump is designed to be used in open circuits. If pumps for close circuits are required, choose K4VSG or K4VG instead. Please contact us for special version or any supplementary information.

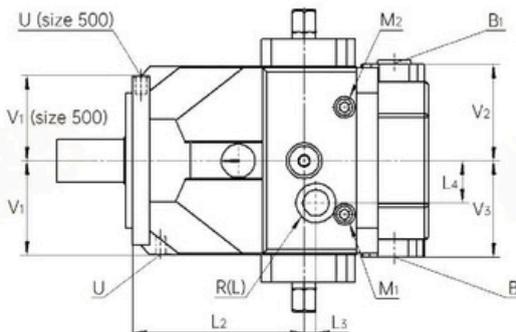
04 SIZE & DIMENSIONS

Following figures are about K4VSO pumps' dimensions of all sizes.

Fig. 1. RHSV (right hand side view)



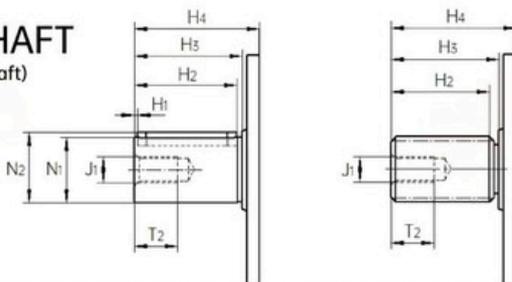
Size Dimension	K4VSO40	K4VSO71/80	K4VSO125	K4VSO180	K4VSO200	K4VSO250	K4VSO355	K4VSO370	K4VSO500
A	266	295	355	375	375	435	464	464	520
A ₁	227	254	310	318	318	380	393	393	441
A ₂	135	152	186	186	186	233	233	233	280
A ₃	80	92.5	117.5	116	116	144	144	144	180
C ₁	38	40	55	55	55	60	60	60	75
C ₂	52	61	70	70	70	90	90	90	80
D ₁	30	27	33	33	33	43	40	40	30
D ₂	140	157	191	191	191	238	238	238	283
D ₃	91	106	121	121	121	153	153	153	189
E	8	8	8	8	8	8	8	8	16
F	18	18	22	22	22	30	30	30	30
Suction S	1½"	2"	2½"	3"	3"	3"	4"	4"	5"
Working B	¾"	1"	1¼"	1¼"	1¼"	1½"	1½"	1½"	2"
Measure M _B /M _S	M14X1.5X12	M18X1.5X12							
Drain T	M22X1.5X14	M27X2X16	M33X2X18	M33X2X18	M33X2X18	M42X2X20	M42X2X20	M42X2X20	M48X2X22

Fig. 2. PLAN


Size Dimension	K4VSO40	K4VSO71/80	K4VSO125	K4VSO180	K4VSO200	K4VSO250	K4VSO355	K4VSO370	K4VSO500
L ₂	144	166	203	203	203	248	248	248	279
L ₃	25	27	14	14	14	17	17	17	50
L ₄	30	34	50	50	50	55	55	55	50
V ₁	79	92	112	112	112	144	144	144	189
V ₂	80	92.5	112.5	120	120	144	148	148	158
V ₃	80	92.5	112.5	120	120	144	148	148	158
Drain R(L)	M22X1.5X14	M27X2X16	M33X2X18	M33X2X18	M33X2X18	M42X2X20	M42X2X20	M42X2X20	M48X2X22
Flushing U	M14X1.5X12	M14X1.5X12	M14X1.5X12	M14X1.5X12	M14X1.5X12	M14X1.5X12	M18X1.5X12	M18X1.5X12	M18X1.5X12
Measure M ₁ /M ₂	-	-	M14X1.5X12	M14X1.5X12	M14X1.5X12	M18X1.5X12	M18X1.5X12	M18X1.5X12	M18X1.5X12

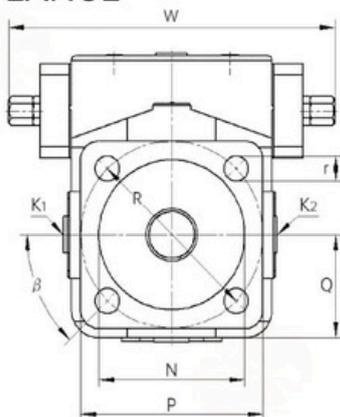
09 DRIVE SHAFT

(left: P shaft; right: Z shaft)



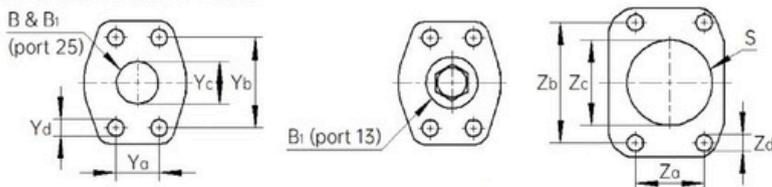
Size Dimension	K4VSO40		K4VSO71/80		K4VSO125		K4VSO180		K4VSO200		K4VSO250		K4VSO355		K4VSO370		K4VSO500	
	P	Z	P	Z	P	Z	P	Z	P	Z	P	Z	P	Z	P	Z	P	Z
H ₁	1.5	-	1.5	-	1.5	-	1.5	-	1.5	-	3	-	4.5	-	4.5	-	3	-
H ₂	57.5	28	69.5	37	81.5	45	81.5	45	81.5	45	103	59	104.5	69	104.5	69	128	76
H ₃	58	36	70	45	82	54	82	54	82	54	105	70	105	82	105	82	130	90
H ₄	68	46	80	55	92	64	92	64	92	64	115	80	115	92	115	92	180	140
T ₂	22	22	28	28	36	36	36	36	36	36	42	42	42	42	42	42	42	42
J ₁	M10	M10	M12	M12	M16	M16	M16	M16	M16	M16	M20	M20	M20	M20	M20	M20	M20	M20
N ₁	Φ32 _{h6}	-	Φ40 _{h6}	-	Φ50 _{h6}	-	Φ50 _{h6}	-	Φ50 _{h6}	-	Φ60 _{m6}	-	Φ70 _{m6}	-	Φ70 _{m6}	-	Φ80 _{m6}	-
N ₂	35	-	43	-	53.5	-	53.5	-	53.5	-	64	-	64	-	74.5	-	74.5	-
Parallel key	A10X8X56	A12X8X68	A14X9X80	A14X9X80	A14X9X80	A14X9X80	A14X9X80	A14X9X80	A14X9X80	A14X9X80	A18X11X100	A20X12X100	A20X12X100	A20X12X100	A22X14X125	A22X14X125	A22X14X125	A22X14X125
Spline X9g	W32X2X14	W40X2X18	W50X2X24	W50X2X24	W50X2X24	W50X2X24	W50X2X24	W50X2X24	W50X2X24	W50X2X24	W60X2X28	W70X3X22	W70X3X22	W70X3X22	W80X3X25	W80X3X25	W80X3X25	W80X3X25

10 MOUNTING FLANGE



Size Dimension	K4VSO40	K4VSO71/80	K4VSO125	K4VSO180	K4VSO200	K4VSO250	K4VSO355	K4VSO370	K4VSO500
β	45° (4-hole)	22.5° (8-hole)							
N	$\Phi 125_{h8}$	$\Phi 140_{h8}$	$\Phi 160_{h8}$	$\Phi 160_{h8}$	$\Phi 160_{h8}$	$\Phi 224_{h8}$	$\Phi 224_{h8}$	$\Phi 224_{h8}$	$\Phi 315_{h8}$
P	$\square 150$	$\square 170$	$\square 200$	$\square 200$	$\square 200$	$\square 265$	$\square 265$	$\square 265$	$\square 380$
Q	85	97	114.5	114.5	114.5	145	144.5	144.5	190
R	$\Phi 160$	$\Phi 180$	$\Phi 200$	$\Phi 200$	$\Phi 200$	$\Phi 280$	$\Phi 280$	$\Phi 280$	$\Phi 360$
r	$\Phi 15$	$\Phi 15$	$\Phi 20$	$\Phi 20$	$\Phi 20$	$\Phi 24$	$\Phi 24$	$\Phi 24$	$\Phi 24$
W	260	298	354	354	354	424	424	424	510
Flushing K	M22X1.5X14	M27X2X16	M33X2X18	M33X2X18	M33X2X18	M42X2X20	M42X2X20	M42X2X20	M48X2X22

11 WORKING PORT

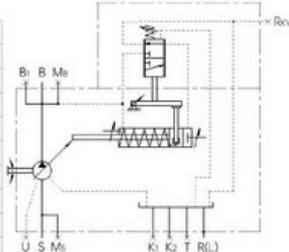


Size Dimension	K4VSO40	K4VSO71/80	K4VSO125	K4VSO180	K4VSO200	K4VSO250	K4VSO355	K4VSO370	K4VSO500
Y_a	23.8	27.8	31.8	31.8	31.8	36.5	36.5	36.5	44.5
Y_b	50.8	57.2	66.7	66.7	66.7	79.4	79.4	79.4	96.8
Y_c	$\Phi 20.5$	$\Phi 25$	$\Phi 31$	$\Phi 31$	$\Phi 31$	$\Phi 40$	$\Phi 40$	$\Phi 40$	$\Phi 50$
Y_d	M10X17	M12X20	M14X19	M14X19	M14X19	M16X25	M16X25	M16X25	M20X24
B_1 (port 13)	M22X1.5X14	M27X2X16	M33X2X18	M33X2X18	M33X2X18	M42X2X20	M42X2X20	M42X2X20	$\Phi 50$
Z_a	35.7	42.9	50.8	61.9	61.9	61.9	77.8	77.8	92.1
Z_b	69.9	77.8	88.9	10.64	10.64	106.4	130.2	130.2	152.4
Z_c	$\Phi 40$	$\Phi 50$	$\Phi 63$	$\Phi 75$	$\Phi 75$	$\Phi 75$	$\Phi 100$	$\Phi 100$	$\Phi 125$
Z_d	M12X20	M12X20	M12X17	M16X24	M16X24	M16X24	M16X21	M16X21	M16X24

3. LR – Power control

The power controller LR adjusts the displacement of the pump according to working pressure, keeps specified drive power constant at same drive speed. ▼Circuit diagram LR

LR		Power controller
2	3	
	D	, plus pressure control
	G	, plus remote pressure control
	F	, plus flow control
	H	, with hydraulic stroke limiter
	N	, with pilot-pressure related hydraulic stroke limiter
	Z	, with hydraulic two-point control
	Y	, with electric unloading valve as starting aid
	E	, plus electric proportional flow control
	S	, with a mounted load sensor



▼Availability for LR control of all sizes

Control	Size	40	71	80	125	180	200	250	355	370	500
		LR 2		●	●	●	●	●	●	●	●
LR 2	F	●	●	●	●	●	●	●	●	●	-
LR 2	H	●	●	●	●	●	●	●	●	●	○
LR 2	N	●	●	●	●	●	●	●	●	●	○
LR 2	Z	●	●	●	●	●	●	●	●	●	○
LR 2	Y	●	●	●	●	●	●	●	●	●	○
LR 2	S	●	●	●	●	●	●	●	●	●	-
LR 2	D	●	●	●	●	●	●	●	●	●	○
LR 2	D F	●	●	●	●	●	●	●	●	●	○
LR 2	D N	●	●	●	●	●	●	●	●	●	○
LR 2	D E	●	●	●	●	●	●	●	●	●	○
LR 2	G	●	●	●	●	●	●	●	●	●	○
LR 2	G F	●	●	●	●	●	●	●	●	●	○
LR 2	G N	●	●	●	●	●	●	●	●	●	○
LR 3		●	●	●	●	●	●	●	●	●	○

NOTE: ● available; ○ upon request; - unavailable; ■ preferred.

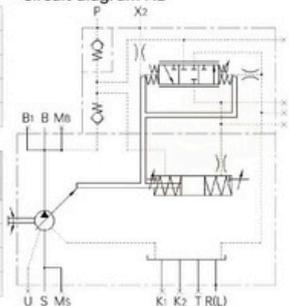
For example, LR2DE means "hyperbolic power control plus pressure control and electric proportional flow control".

4. HD – Pilot-pressure related hydraulic control

Infinite adjustment of displacement proportional to specified pilot-pressure.

▼Circuit diagram HD

HD		Pilot-pressure related hydraulic control
1	2	, with 10–45 bar pilot-pressure
		, with 10–28 bar pilot-pressure
	D	, with electric controlled pilot-pressure
	T	, with electric controlled pilot-pressure



▼Availability for HD control of all sizes

Control	Size	40	71	80	125	180	200	250	355	370	500
		HD 1		○	○	○	●	●	●	●	●
HD 1	D	○	○	○	●	●	●	●	●	●	○
HD 1	T	○	○	○	●	●	●	●	●	●	○
HD 2		○	○	○	●	●	●	●	●	●	●

NOTE: ● available; ○ upon request.

For example, HD1T means "electric controlled pilot-pressure related hydraulic control, with 10–45 bar pilot-pressure".

5. HM – Control volume dependent hydraulic control

The pump displacement can be infinitely varied in relation to the control oil volume in parts X_1 and X_2 . Can be applied in two-point circuit or servo control.

HS4 – Hydraulic control with proportional valve

Infinite adjustment of displacement by means of a proportional valve and electrical feedback of the swivel angle.

EO2 – Electric control

Infinite adjustment of displacement by means of a proportional valve and electrical feedback of the swivel angle. The control can be used as an electric displacement control.

H		Hydraulic controller
E	O	
	M	, control volume dependent
S		, with servo valve and proportional amplifier KD-SR7-1X*
	2	, minimum control pressure 50/100/125 bar
4		, with proportional valve instead of servo valve, amplifier VT-VP-CD-1X* for pressure and power control
	E	, without valve when delivered
K		, with short circuit valve when delivered

NOTE: * not included, must be ordered separately.

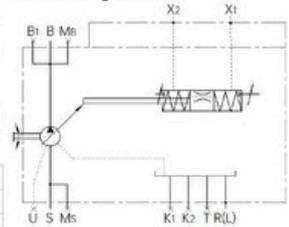
▼ Availability for HM/HS4/EO2 control of all sizes

Control		Size	40	71	80	125	180	200	250	355	370	500
H	M	2	●	●	●	●	●	●	●	●	●	●
H	S	4	●	●	●	●	●	●	●	●	●	○
H	S	4	E	●	●	●	●	●	●	●	●	●
E	O	2	●	●	●	●	●	●	●	●	●	●
E	O	2	E	●	●	●	●	●	●	●	●	●
E	O	2	K	●	●	●	●	●	●	●	●	●

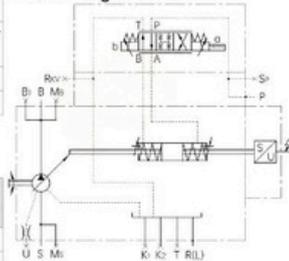
NOTE: ● available; ○ upon request.

For example, HS4E means "hydraulic control with proportional valve instead of servo valve, amplifier VT-VP-CD-1X for pressure and power control, without valve when delivered"; EO2K means "electric control with proportional amplifier KD-5035M, minimum control pressure 50/100/125 bar, with short circuit valve when delivered".

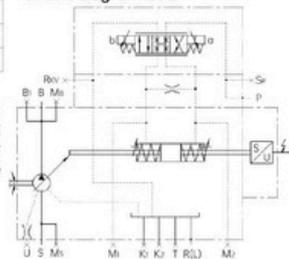
▼ Circuit diagram HM



▼ Circuit diagram HS4



▼ Circuit diagram EO2



6. DFE1Z – Electric control with pressure and flow controller

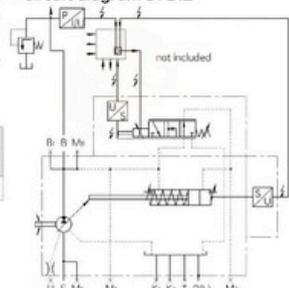
An electrically actuated proportional valve controls the power, pressure and swivel angle of the variable pump. Proportional valve's current determines the position of swash-plate between $0^\circ \rightarrow +15^\circ$ and thus the flow of the pump. When the electric motor is switched off and actuator system is depressurized, the pump swivels to maximum displacement $V_{g,max}$ via spring force.

▼ Availability for DFE1Z control of all sizes

Control		Size	40	71	80	125	180	200	250	355	370	500
D	F	E	Z	○	○	○	●	●	●	●	●	○

NOTE: ● available; ○ upon request.

▼ Circuit diagram DFE1Z



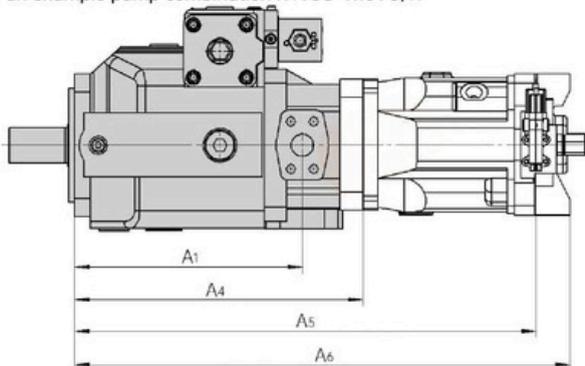
COMBINATION PUMP

K4VSO pump can be combined with K10VO, K4VSO or other type of pumps. A tandem pump with two pumps of equal size is permissible. Please specify the designations for the 1st and the 2nd pumps and join by a "+" when ordering. Order example:

K4VS O 250 DR / 20 R - P P B 13 K34 + K4VS O 180 DR / 20 R - P P B 13 N00

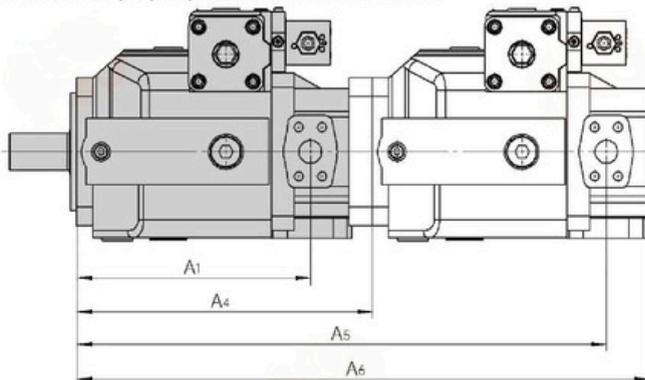
The first row of following table refers to the 1st pump (P). For informations about the through-drives (TD), see part 12.

1. Dimensions of an example pump combination K4VSO+K10VO/11



+2 nd P	1 st P TD	K4VSO40				K4VSO71				K4VSO80				K4VSO125				K4VSO180			
		A ₁	A ₄	A ₅	A ₆	A ₁	A ₄	A ₅	A ₆	A ₁	A ₄	A ₅	A ₆	A ₁	A ₄	A ₅	A ₆	A ₁	A ₄	A ₅	A ₆
K10VO18	K52 KB2	227	263	408	458	254	315	460	486	254	315	460	486	310	310	369	564	318	318	393	588
K10VO28	K68 KB3	227	290	454	496	254	322	486	497	254	322	486	497	310	369	533	575	318	393	557	599
K10VO45	K04 KB4	227	290	474	514	254	322	506	540	254	322	506	540	310	369	553	593	318	393	577	617
K10VO71	K07 KB5	-	-	-	-	254	321	538	580	254	321	538	580	310	369	586	628	318	393	610	652
K10VO100	K24 KB6	-	-	-	-	-	-	-	-	-	-	-	-	310	369	644	698	318	393	668	722
K10VO140	K17 KB7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	318	406	681	744
+2 nd P	1 st P TD	K4VSO200				K4VSO250				K4VSO355				K4VSO370				K4VSO500			
		A ₁	A ₄	A ₅	A ₆	A ₁	A ₄	A ₅	A ₆	A ₁	A ₄	A ₅	A ₆	A ₁	A ₄	A ₅	A ₆	A ₁	A ₄	A ₅	A ₆
K10VO18	K52 KB2	318	△	△	588	380	△	△	648	393	△	△	△	393	△	△	△	441	△	△	700
K10VO28	K68 KB3	318	393	557	599	380	453	617	659	393	482	646	△	393	482	646	△	441	505	669	711
K10VO45	K04 KB4	318	393	577	617	380	453	637	677	393	482	666	706	393	482	666	706	441	505	689	729
K10VO71	K07 KB5	318	393	610	652	380	453	670	712	393	482	699	741	393	482	699	741	441	△	△	764
K10VO100	K24 KB6	318	393	668	722	380	453	728	782	393	482	757	△	393	482	757	△	441	505	780	857
K10VO140	K17 KB7	318	406	681	744	380	453	728	791	393	482	757	820	393	482	757	820	441	505	780	868

NOTE: - unavailable; △ pending.

2. Dimensions of an example pump combination K4VSO+K4VSO


1 st P +2 nd P	TD	K4VSO40				K4VSO71				K4VSO80				K4VSO125				K4VSO180			
		A ₁	A ₄	A ₅	A ₆	A ₁	A ₄	A ₅	A ₆	A ₁	A ₄	A ₅	A ₆	A ₁	A ₄	A ₅	A ₆	A ₁	A ₄	A ₅	A ₆
K4VSO40	K31	227	288	515	554	254	316	543	582	254	316	543	582	310	369	596	635	318	393	620	659
K4VSO71	K33	-	-	-	-	254	316	570	611	254	316	570	611	310	369	623	664	318	393	647	688
K4VSO80	K33	-	-	-	-	-	-	-	-	254	316	570	611	310	369	623	664	318	393	647	688
K4VSO125	K34	-	-	-	-	-	-	-	-	-	-	-	-	310	369	679	724	318	393	703	748
K4VSO180	K34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	318	393	711	768
1 st P +2 nd P	TD	K4VSO200				K4VSO250				K4VSO355				K4VSO370				K4VSO500			
		A ₁	A ₄	A ₅	A ₆	A ₁	A ₄	A ₅	A ₆	A ₁	A ₄	A ₅	A ₆	A ₁	A ₄	A ₅	A ₆	A ₁	A ₄	A ₅	A ₆
K4VSO40	K31	318	393	620	659	380	453	680	719	393	482	709	748	393	482	709	748	441	505	732	771
K4VSO71	K33	318	393	647	688	380	453	707	748	393	482	736	777	393	482	736	777	441	505	759	800
K4VSO80	K33	318	393	647	688	380	453	707	748	393	482	736	777	393	482	736	777	441	505	759	800
K4VSO125	K34	318	393	703	748	380	453	763	808	393	482	792	837	393	482	792	837	441	505	815	860
K4VSO180	K34	318	393	711	768	380	453	771	828	393	482	800	857	393	482	800	857	441	505	823	880
K4VSO200	K34	318	393	711	768	380	453	771	828	393	482	800	857	393	482	800	857	441	505	823	880
K4VSO250	K35	-	-	-	-	380	469	849	904	393	498	878	933	393	498	878	933	441	541	921	976
K4VSO355	K77	-	-	-	-	-	-	-	-	393	498	891	962	393	498	891	962	441	541	934	1005
K4VSO370	K77	-	-	-	-	-	-	-	-	-	-	-	-	393	498	891	962	441	541	934	1005
K4VSO500	K43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	441	590	1031	1110

NOTE: - unavailable.

3. For dimensions of K4VSO+other type of pumps, such as a gear pump or radial piston pump, please contact us for further information before ordering.

12 THROUGH-DRIVE

K4VSO pump can be combined with K10VO, K4VSO or other type of pumps. Hub for splined shaft, mounting bolts, O-rings and mounting plates (when available) are in the scope of delivery.

The first rows of following tables refer to the 1st pumps, while the second rows after "+" refer to the 2nd pumps and their drive shafts.

1. Available through-drives for K4VSO+K10VO

1 st P	K4VSO40			K4VSO71 / 80				K4VSO125					K4VSO180						K4VSO200						
	TD	18	28	45	18	28	45	71	18	28	45	71	100	18	28	45	71	100	140	18	28	45	71	100	140
K52	+	●	-	-	●	-	-	-	○	-	-	-	-	○	-	-	-	-	-	○	-	-	-	-	-
K68		-	●	-	-	●	-	-	-	●	-	-	-	-	●	-	-	-	-	-	●	-	-	-	-
K04		-	-	●	-	-	●	-	-	-	●	-	-	-	●	-	-	-	-	-	-	●	-	-	-
K07		-	-	-	-	-	●	-	-	-	●	-	-	-	●	-	-	-	-	-	-	●	-	-	-
K24		-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	●	-	-	-	-	-	-	●	-
K17		-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-	●
KB2		○	-	-	●	-	-	-	○	-	-	-	-	○	-	-	-	-	-	○	-	-	-	-	-
KB3		-	●	-	-	●	-	-	-	●	-	-	-	-	●	-	-	-	-	-	●	-	-	-	-
KB4		-	-	●	-	-	●	-	-	-	●	-	-	-	●	-	-	-	-	-	●	-	-	-	-
KB5		-	-	-	-	-	●	-	-	-	●	-	-	-	●	-	-	-	-	-	-	●	-	-	-
KB6		-	-	-	-	-	-	-	-	-	-	○	-	-	-	○	-	-	-	-	-	-	-	○	-
KB7		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-	●

NOTE: ● available; ○ upon request; - unavailable.

1 st P	K4VSO250						K4VSO355						K4VSO370						K4VSO500						
	TD	18	28	45	71	100	140	18	28	45	71	100	140	18	28	45	71	100	140	18	28	45	71	100	140
K52	+	○	-	-	-	-	○	-	-	-	-	-	-	○	-	-	-	-	-	○	-	-	-	-	-
K68		-	●	-	-	-	-	●	-	-	-	-	-	-	●	-	-	-	-	-	●	-	-	-	-
K04		-	-	●	-	-	-	-	●	-	-	-	-	-	●	-	-	-	-	-	●	-	-	-	-
K07		-	-	-	●	-	-	-	●	-	-	-	-	-	●	-	-	-	-	-	-	●	-	-	-
K24		-	-	-	●	-	-	-	-	●	-	-	-	-	●	-	-	-	-	-	-	-	●	-	-
K17		-	-	-	-	●	-	-	-	-	●	-	-	-	-	●	-	-	-	-	-	-	-	-	●
KB2		○	-	-	-	-	○	-	-	-	-	-	○	-	-	-	-	-	-	○	-	-	-	-	-
KB3		-	○	-	-	-	-	○	-	-	-	-	-	○	-	-	-	-	-	-	○	-	-	-	-
KB4		-	-	●	-	-	-	-	●	-	-	-	-	-	●	-	-	-	-	-	●	-	-	-	-
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KB7		-	-	-	-	●	-	-	-	●	-	-	-	-	●	-	-	-	-	-	-	-	-	-	●

NOTE: ● available; ○ upon request; - unavailable.

2. Available through-drives for K4VSO+K4VSO

1 st P	40		71		K4VSO80			K4VSO125			K4VSO180			K4VSO200					K4VSO250										
	TD	+	40	71	40	71	80	40	71	80	125	40	71	80	125	180	40	71	80	125	180	200	40	71	80	125	180	200	250
K31		+	●	●	-	●	-	●	-	●	-	●	-	●	-	●	-	●	-	●	-	●	-	●	-	●	-	●	-
K33		-	-	●	-	●	-	●	-	●	-	●	-	●	-	●	-	●	-	●	-	●	-	●	-	●	-	●	-
K34		-	-	-	-	-	-	●	-	-	●	-	●	-	●	-	●	-	●	-	●	-	●	-	●	-	●	-	●
K35		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●

NOTE: ● available; - unavailable.

1 st P	K4VSO355							K4VSO370							K4VSO500														
TD	+	40	71	80	125	180	200	250	355	40	71	80	125	180	200	250	355	370	40	71	80	125	180	200	250	355	370	500	
K31		●	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-
K33		-	●	●	-	-	-	-	-	-	●	●	-	-	-	-	-	-	-	-	●	●	-	-	-	-	-	-	-
K34		-	-	●	●	●	-	-	-	-	●	●	●	-	-	-	-	-	-	-	●	●	●	-	-	-	-	-	-
K35		-	-	-	-	-	●	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-	●	-	-	-
K77		-	-	-	-	-	-	●	-	-	-	-	-	-	-	-	●	●	-	-	-	-	-	-	-	-	●	●	-
K43		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●

NOTE: ● available; - unavailable.

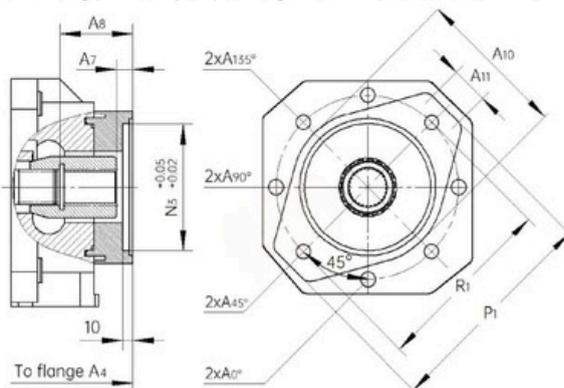
3. Available through-drives for K4VSO+other type of pumps

1 st P	K4VSO40	K4VSO71	K4VSO80	K4VSO125	K4VSO180	K4VSO200	K4VSO250	K4VSO355	K4VSO370	K4VSO500
TD	+	other	other	other	other	other	other	other	other	other
K99		●	●	●	●	●	●	●	●	●
K01		●	●	●	●	●	●	●	●	●
K57		●	●	●	○	○	○	○	○	○

NOTE: ● available; ○ upon request.

▼ Dimensions of mounting plate/2nd pump's flange/hub for splined shaft/... of all sizes

4.


 Code K01 (2nd pump gear pump F series 4-22; 2nd pump's flange ISO 3019-1 – 82-2)

1 st P	Code K01 (2 nd pump gear pump F series 4-22; 2 nd pump's flange ISO 3019-1 – 82-2)								
Dimension	K4VSO40	K4VSO71/80	K4VSO125	K4VSO180	K4VSO200	K4VSO250	K4VSO355	K4VSO370	K4VSO500
	Φ82.55	Φ82.55	Φ82.55	Φ82.55	Φ82.55	Φ82.55	Φ82.55	Φ82.55	Φ82.55
	263	291	369	393	393	453	482	482	505
	10.3	10.3	16	16	16	16	16	16	10.3
	36.2	34.9	35.4	35.4	35.4	35.4	35.4	35.4	43
	-	-	M10	M10	M10	M10	M10	M10	-
	M10	-	M10						
	M10	M10	M10	M10	M10	M10	M10	M10	M10
	95	95	95	95	95	95	95	95	95
	18	18	18	18	18	18	18	18	18
	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5
	130	130	130	130	130	130	130	130	130
HubX8H	N25X1.25X18	N30X1.25X22	N35X1.25X26	N35X1.25X26	N35X1.25X26	N42X1.25X32	N42X1.25X32	N42X1.25X32	N55X1.25X42
	3/8"-9T-16/32	3/8"-9T-16/32	3/8"-9T-16/32	3/8"-9T-16/32	3/8"-9T-16/32	3/8"-9T-16/32	3/8"-9T-16/32	3/8"-9T-16/32	3/8"-9T-16/32

Code K52 (2nd pump K10V018; 2nd pump's flange ISO 3019-1 – 82-2)

1 st P Dimension	K4VSO40	K4VSO71/80	K4VSO125	K4VSO180	K4VSO200	K4VSO250	K4VSO355	K4VSO370	K4VSO500
N ₅	Φ82.55								
A ₄	263	315	△	△	△	△	△	△	△
A ₇	10.5	10.5	△	△	△	△	△	△	△
A ₈	44.3	40.5	△	△	△	△	△	△	△
A _{45°}	M10	M10	△	△	△	△	△	△	△
A _{90°}	M10								
A ₁₀	95	95	95	95	95	95	95	95	95
A ₁₁	18	18	18	18	18	18	18	18	18
R ₁	106.4	106.4	106.4	106.4	106.4	106.4	106.4	106.4	106.4
P ₁	130	130	130	130	130	130	130	130	130
HubX8H	N25X1.25X18 ¼"-11T-16/32	N30X1.25X22 ¼"-11T-16/32	N35X1.25X26 ¼"-11T-16/32	N35X1.25X26 ¼"-11T-16/32	N35X1.25X26 ¼"-11T-16/32	N42X1.25X32 ¼"-11T-16/32	N42X1.25X32 ¼"-11T-16/32	N42X1.25X32 ¼"-11T-16/32	N55X1.25X42 ¼"-11T-16/32

NOTE: △ pending.

Code KB2 (2nd pump K10V018; 2nd pump's flange ISO 3019-2 – 80A2HW)

1 st P Dimension	K4VSO40	K4VSO71/80	K4VSO125	K4VSO180	K4VSO200	K4VSO250	K4VSO355	K4VSO370	K4VSO500
N ₅	Φ80								
A ₄	△	291	△	△	△	△	△	△	△
A ₇	△	21.5	△	△	△	△	△	△	△
A ₈	△	40.5	△	△	△	△	△	△	△
A _{45°}	M10								
A ₁₀	100	100	100	100	100	100	100	100	100
A ₁₁	18	18	18	18	18	18	18	18	18
R ₁	109	109	109	109	109	109	109	109	109
P ₁	133	133	133	133	133	133	133	133	133
HubX8H	N25X1.25X18 ¼"-11T-16/32	N30X1.25X22 ¼"-11T-16/32	N35X1.25X26 ¼"-11T-16/32	N35X1.25X26 ¼"-11T-16/32	N35X1.25X26 ¼"-11T-16/32	N42X1.25X32 ¼"-11T-16/32	N42X1.25X32 ¼"-11T-16/32	N42X1.25X32 ¼"-11T-16/32	N55X1.25X42 ¼"-11T-16/32

NOTE: △ pending.

Code K68 (2nd pump K10V028; 2nd pump's flange ISO 3019-1 – 101-2)

1 st P Dimension	K4VSO40	K4VSO71/80	K4VSO125	K4VSO180	K4VSO200	K4VSO250	K4VSO355	K4VSO370	K4VSO500
N ₅	Φ101.6								
A ₄	290	322	369	393	393	453	482	482	505
A ₇	20.4	10.4	28	28	28	19.5	19.5	19.5	19.5
A ₈	43.5	45.5	53	53	53	42.1	42.1	42.1	44.5
A _{0°}	–	–	M12						
A _{45°}	M12								
A _{90°}	M12								
A _{155°}	–	–	M12	M12	M12	–	–	–	–
A ₁₀	120	120	120	120	120	120	120	120	120
A ₁₁	25	25	25	25	25	25	25	25	25
R ₁	146	146	146	146	146	146	146	146	146
P ₁	174	174	174	174	174	174	174	174	174
HubX8H	N25X1.25X18 ¼"-13T-16/32	N30X1.25X22 ¼"-13T-16/32	N35X1.25X26 ¼"-13T-16/32	N35X1.25X26 ¼"-13T-16/32	N35X1.25X26 ¼"-13T-16/32	N42X1.25X32 ¼"-13T-16/32	N42X1.25X32 ¼"-13T-16/32	N42X1.25X32 ¼"-13T-16/32	N55X1.25X42 ¼"-13T-16/32

NOTE: – unavailable.

Code KB3 (2nd pump K10VO28; 2nd pump's flange ISO 3019-2 – 100A2HW)

1 st P Dimension	K4VSO40	K4VSO71/80	K4VSO125	K4VSO180	K4VSO200	K4VSO250	K4VSO355	K4VSO370	K4VSO500
N ₅	Φ100								
A ₄	290	291	369	393	393	Δ	Δ	Δ	Δ
A ₇	20.3	20.4	20.5	20.5	20.5	Δ	Δ	Δ	Δ
A ₈	43.3	43.4	45.4	45.4	45.4	Δ	Δ	Δ	Δ
A _{45°}	M12								
A ₁₀	125	125	125	125	125	125	125	125	125
A ₁₁	20	20	20	20	20	20	20	20	20
R ₁	140	140	140	140	140	140	140	140	140
P ₁	168	168	168	168	168	168	168	168	168
HubX8H	N25X1.25X18 ½"-13T-16/32	N30X1.25X22 ¾"-13T-16/32	N35X1.25X26 ¾"-13T-16/32	N35X1.25X26 ¾"-13T-16/32	N35X1.25X26 ¾"-13T-16/32	N42X1.25X32 ¾"-13T-16/32	N42X1.25X32 ¾"-13T-16/32	N42X1.25X32 ¾"-13T-16/32	N55X1.25X42 ¾"-13T-16/32

NOTE: Δ pending.

Code K04 (2nd pump K10VSO45; 2nd pump's flange ISO 3019-1 – 101-2)

1 st P Dimension	K4VSO40	K4VSO71/80	K4VSO125	K4VSO180	K4VSO200	K4VSO250	K4VSO355	K4VSO370	K4VSO500
N ₅	Φ101.6								
A ₄	290	322	369	393	393	453	482	482	505
A ₇	10.4	10.3	18.9	18.9	18.9	18.9	18.9	18.9	10.3
A ₈	48.3	46	48.3	48.3	48.3	48.3	48.3	48.3	39.2
A _{45°}	M12								
A _{90°}	M12								
A _{135°}	–	–	M12	M12	M12	–	–	–	–
A ₁₀	120	120	120	120	120	120	120	120	120
A ₁₁	25	25	25	25	25	25	25	25	25
R ₁	146	146	146	146	146	146	146	146	146
P ₁	174	174	174	174	174	174	174	174	174
HubX8H	N25X1.25X18 1"-15T-16/32	N30X1.25X22 1"-15T-16/32	N35X1.25X26 1"-15T-16/32	N35X1.25X26 1"-15T-16/32	N35X1.25X26 1"-15T-16/32	N42X1.25X32 1"-15T-16/32	N42X1.25X32 1"-15T-16/32	N42X1.25X32 1"-15T-16/32	N55X1.25X42 1"-15T-16/32

NOTE: – unavailable.

Code KB4 (2nd pump K10VO45; 2nd pump's flange ISO 3019-2 – 100A2HW)

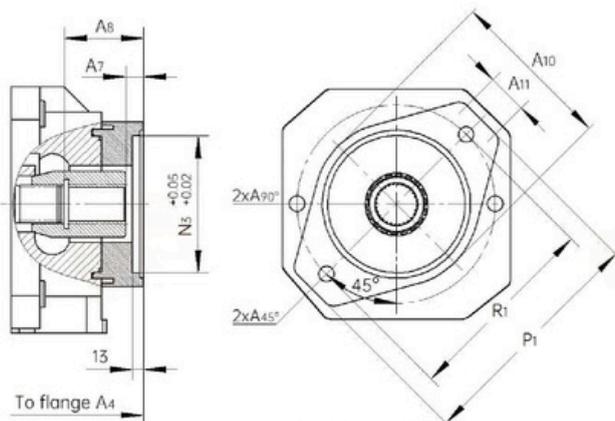
1 st P Dimension	K4VSO40	K4VSO71/80	K4VSO125	K4VSO180	K4VSO200	K4VSO250	K4VSO355	K4VSO370	K4VSO500
N ₅	Φ100								
A ₄	290	316	369	393	393	453	482	482	505
A ₇	20.8	20.8	18.9	18.9	18.9	20.9	20.9	20.9	20.4
A ₈	48.3	48.3	48.4	48.4	48.4	50.4	50.4	50.4	49.3
A _{45°}	M12								
A ₁₀	125	125	125	125	125	125	125	125	125
A ₁₁	20	20	20	20	20	20	20	20	20
R ₁	140	140	140	140	140	140	140	140	140
P ₁	168	168	168	168	168	168	168	168	168
HubX8H	N25X1.25X18 1"-15T-16/32	N30X1.25X22 1"-15T-16/32	N35X1.25X26 1"-15T-16/32	N35X1.25X26 1"-15T-16/32	N35X1.25X26 1"-15T-16/32	N42X1.25X32 1"-15T-16/32	N42X1.25X32 1"-15T-16/32	N42X1.25X32 1"-15T-16/32	N55X1.25X42 1"-15T-16/32

Code KB5 (2nd pump K10VO71; 2nd pump's flange ISO 3019-2 – 125A2HW)

1 st P Dimension	K4VSO40	K4VSO71/80	K4VSO125	K4VSO180	K4VSO200	K4VSO250	K4VSO355	K4VSO370	K4VSO500
N ₅	–	Φ125							
A ₄	–	321	369	393	393	453	482	482	Δ
A ₇	–	23	20	20	20	20.9	20.9	20.9	Δ
A ₈	–	61	58	58	58	58.8	58.8	58.8	Δ
A _{45°}	–	M16							
A _{90°}	–	–	M16	M16	M16	M16	M16	M16	–
A ₁₀	–	150	150	150	150	150	150	150	150
A ₁₁	–	24	24	24	24	24	24	24	24
R ₁	–	180	180	180	180	180	180	180	180
P ₁	–	216	216	216	216	216	216	216	216
HubX8H	–	N30X1.25X22	N35X1.25X26	N35X1.25X26	N35X1.25X26	N42X1.25X32	N42X1.25X32	N42X1.25X32	N55X1.25X42
	–	1/4"-14T/12/24							

NOTE: – unavailable; Δ pending.

5.


Code K07 (2nd pump K10VO71; 2nd pump's flange ISO 3019-1 – 127-2)

1 st P Dimension	K4VSO40	K4VSO71/80	K4VSO125	K4VSO180	K4VSO200	K4VSO250	K4VSO355	K4VSO370	K4VSO500
N ₅	–	Φ127							
A ₄	–	321	369	393	393	453	482	482	505
A ₇	–	10.4	20.9	20.9	20.9	20.9	20.9	20.9	11.3
A ₈	–	58	58.8	58.8	58.8	58.8	58.8	58.8	51.5
A _{45°}	–	M16							
A _{90°}	–	–	M16	M16	M16	M16	M16	M16	–
A ₁₀	–	148	148	148	148	148	148	148	148
A ₁₁	–	31	31	31	31	31	31	31	31
R ₁	–	181	181	181	181	181	181	181	181
P ₁	–	213	213	213	213	213	213	213	213
HubX8H	–	N30X1.25X22	N35X1.25X26	N35X1.25X26	N35X1.25X26	N42X1.25X32	N42X1.25X32	N42X1.25X32	N55X1.25X42
	–	1/4"-14T/12/24							

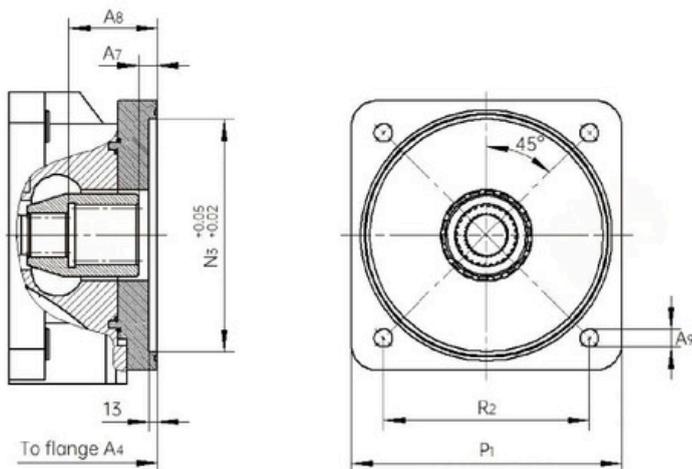
NOTE: – unavailable.

Code K24 (2nd pump K10VO100; 2nd pump's flange ISO 3019-1 – 127-2)

1 st P	K4VSO40	K4VSO71/80	K4VSO125	K4VSO180	K4VSO200	K4VSO250	K4VSO355	K4VSO370	K4VSO500
Dimension									
N ₅	-	-	Φ127						
A ₄	-	-	369	393	393	453	482	482	505
A ₇	-	-	10.4	10.4	10.4	12.4	12.4	12.4	10.3
A ₈	-	-	60.4	60.4	60.4	62.4	62.4	62.4	66.9
A _{45°}	-	-	M16	M16	M16	M16	M16	M16	-
A _{90°}	-	-	M16						
A ₁₀	-	-	148	148	148	148	148	148	148
A ₁₁	-	-	31	31	31	31	31	31	31
R ₁	-	-	181	181	181	181	181	181	181
P ₁	-	-	213	213	213	213	213	213	213
HubX8H	-	-	N35X1.25X26	N35X1.25X26	N35X1.25X26	N42X1.25X32	N42X1.25X32	N42X1.25X32	N55X1.25X42
	-	-	1/2"-17T-12/24						

NOTE: - unavailable.

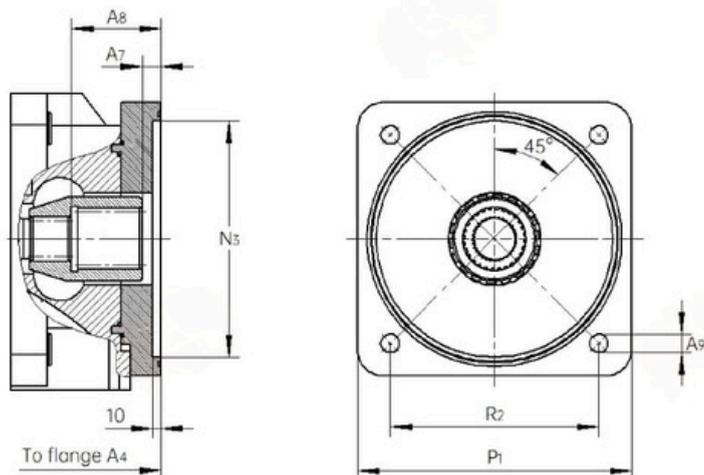
6.


 Code K17 (2nd pump K10VO140; 2nd pump's flange ISO 3019-1 – 152-4)

1 st P	K4VSO40	K4VSO71/80	K4VSO125	K4VSO180	K4VSO200	K4VSO250	K4VSO355	K4VSO370	K4VSO500
Dimension									
N ₅	-	-	-	Φ152.4	Φ152.4	Φ152.4	Φ152.4	Φ152.4	Φ152.4
A ₄	-	-	-	406	406	453	482	482	505
A ₇	-	-	-	10.4	10.4	10.6	10.6	10.6	10.4
A ₈	-	-	-	72.4	72.4	72.6	72.6	72.6	70
A ₉	-	-	-	M16	M16	M16	M16	M16	M16
R ₂	-	-	-	161.6	161.6	161.6	161.6	161.6	161.6
P ₁	-	-	-	199.6	199.6	199.6	199.6	199.6	199.6
HubX8H	-	-	-	N35X1.25X26	N35X1.25X26	N42X1.25X32	N42X1.25X32	N42X1.25X32	N55X1.25X42
	-	-	-	1/4"-13T-8/16	1/4"-13T-8/16	1/4"-13T-8/16	1/4"-13T-8/16	1/4"-13T-8/16	1/4"-13T-8/16

NOTE: - unavailable.

7.

Code KB7 (2nd pump K10V0140; 2nd pump's flange ISO 3019-2 – 180B4HW)

1 st P	K4VSO40	K4VSO71/80	K4VSO125	K4VSO180	K4VSO200	K4VSO250	K4VSO355	K4VSO370	K4VSO500
Dimension									
N ₅ ^{+0.07} _{-0.02}	-	-	-	Φ180	Φ180	Φ180	Φ180	Φ180	Φ180
A ₄	-	-	-	406	406	453	482	482	505
A ₇	-	-	-	10.6	10.6	10.6	10.6	10.6	10.4
A ₈	-	-	-	72.6	72.6	74.6	74.6	74.6	74
A ₉	-	-	-	M16	M16	M16	M16	M16	M16
R ₂	-	-	-	158.4	158.4	158.4	158.4	158.4	158.4
P ₁	-	-	-	212	212	212	212	212	212
HubX8H	-	-	-	N35X1.25X26	N35X1.25X26	N42X1.25X32	N42X1.25X32	N42X1.25X32	N55X1.25X42
	-	-	-	1½"-13T-8/16	1½"-13T-8/16	1½"-13T-8/16	1½"-13T-8/16	1½"-13T-8/16	1½"-13T-8/16

NOTE: - unavailable.

Code K31 (2nd pump K4VSO40; 2nd pump's flange ISO 3019-2 – 125B4HW)

1 st P	K4VSO40	K4VSO71/80	K4VSO125	K4VSO180	K4VSO200	K4VSO250	K4VSO355	K4VSO370	K4VSO500
Dimension									
N ₅ ^{+0.07} _{-0.02}	Φ125								
A ₄	288	316	369	393	393	453	482	482	505
A ₇	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
A ₈	52.5	46.1	48.1	48.1	48.1	50.5	50.5	50.5	51
A ₉	M12								
R ₂	113.2	113.2	113.2	113.2	113.2	113.2	113.2	113.2	113.2
P ₁	150	150	150	150	150	150	150	150	150
HubX8H	N25X1.25X18	N30X1.25X22	N35X1.25X26	N35X1.25X26	N35X1.25X26	N42X1.25X32	N42X1.25X32	N42X1.25X32	N55X1.25X42
	N32X2X14								

Code K33 (2nd pump K4VSO71/80; 2nd pump's flange ISO 3019-2 – 140B4HW)

1 st P Dimension	K4VSO40	K4VSO71/80	K4VSO125	K4VSO180	K4VSO200	K4VSO250	K4VSO355	K4VSO370	K4VSO500
N ₅ ^{+0.07} _{-0.02}	–	Φ140							
A ₆	–	316	369	393	393	453	482	482	505
A ₇	–	11.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
A ₈	–	54.3	56.3	56.3	56.3	61.4	60.5	60.5	69.5
A ₉	–	M12							
R ₂	–	127.3	127.3	127.3	127.3	127.3	127.3	127.3	127.3
P ₁	–	170	170	170	170	170	170	170	170
HubX8H	–	N30X1.25X22	N35X1.25X26	N35X1.25X26	N35X1.25X26	N42X1.25X32	N42X1.25X32	N42X1.25X32	N55X1.25X42
	–	N40X2X18							

NOTE: – unavailable.

Code K34 (2nd pump K4VSO125/180/200; 2nd pump's flange ISO 3019-2 – 160B4HW)

1 st P Dimension	K4VSO40	K4VSO71/80	K4VSO125	K4VSO180	K4VSO200	K4VSO250	K4VSO355	K4VSO370	K4VSO500
N ₅ ^{+0.07} _{-0.02}	–	–	Φ160						
A ₆	–	–	369	393	393	453	482	482	505
A ₇	–	–	12.5	12.5	12.5	12.5	12.5	12.5	13.5
A ₈	–	–	64.1	64.1	64.1	66.5	66.5	66.5	68
A ₉	–	–	M16						
R ₂	–	–	141.4	141.4	141.4	141.4	141.4	141.4	141.4
P ₁	–	–	190	190	190	190	190	190	190
HubX8H	–	–	N35X1.25X26	N35X1.25X26	N35X1.25X26	N42X1.25X32	N42X1.25X32	N42X1.25X32	N55X1.25X42
	–	–	N50X2X24						

NOTE: – unavailable.

Code K35 (2nd pump K4VSO250; 2nd pump's flange ISO 3019-2 – 224B4HW)

1 st P Dimension	K4VSO40	K4VSO71/80	K4VSO125	K4VSO180	K4VSO200	K4VSO250	K4VSO355	K4VSO370	K4VSO500
N ₅ ^{+0.10} _{+0.05}	–	–	–	–	–	Φ224	Φ224	Φ224	Φ224
A ₆	–	–	–	–	–	469	498	498	541
A ₇	–	–	–	–	–	12.5	12.5	12.5	12.5
A ₈	–	–	–	–	–	87.5	87.5	87.5	86.5
A ₉	–	–	–	–	–	M20	M20	M20	M20
R ₂	–	–	–	–	–	198	198	198	198
P ₁	–	–	–	–	–	266	266	266	266
HubX8H	–	–	–	–	–	N42X1.25X32	N42X1.25X32	N42X1.25X32	N55X1.25X42
	–	–	–	–	–	N60X2X28	N60X2X28	N60X2X28	N60X2X28

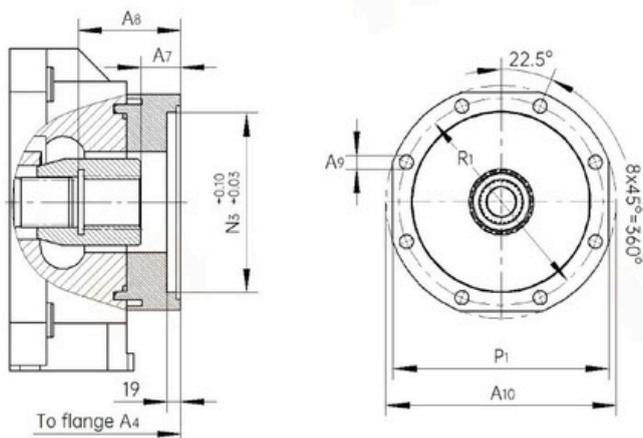
NOTE: – unavailable.

Code K77 (2nd pump K4VSO355/370; 2nd pump's flange ISO 3019-2 – 224B4HW)

1 st P	K4VSO40	K4VSO71/80	K4VSO125	K4VSO180	K4VSO200	K4VSO250	K4VSO355	K4VSO370	K4VSO500
Dimension									
N ₅	-	-	-	-	-	-	Φ224	Φ224	Φ224
A ₄	-	-	-	-	-	-	498	498	541
A ₇	-	-	-	-	-	-	12.5	12.5	12.5
A ₈	-	-	-	-	-	-	87.5	87.5	88.5
A ₉	-	-	-	-	-	-	M20	M20	M20
R ₂	-	-	-	-	-	-	198	198	198
P ₁	-	-	-	-	-	-	266	266	266
HubX8H	-	-	-	-	-	-	N42X1.25X32	N42X1.25X32	N55X1.25X42
	-	-	-	-	-	-	N70X3X22	N70X3X22	N70X3X22

NOTE: - unavailable.

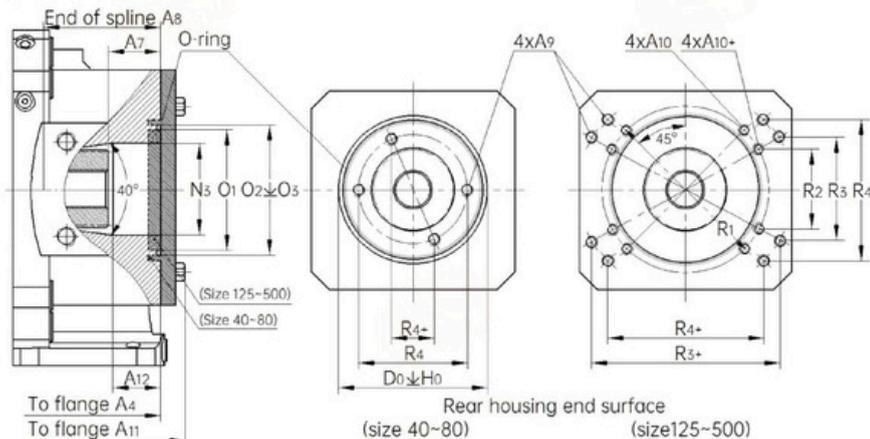
8.


Code K43 (2nd pump K4VSO500; 2nd pump's flange ISO 3019-2 – 315D8HW)

1 st P	K4VSO40	K4VSO71/80	K4VSO125	K4VSO180	K4VSO200	K4VSO250	K4VSO355	K4VSO370	K4VSO500
Dimension									
N ₅	-	-	-	-	-	-	-	-	Φ315
A ₄	-	-	-	-	-	-	-	-	590
A ₇	-	-	-	-	-	-	-	-	53.5
A ₈	-	-	-	-	-	-	-	-	125.4
A ₉	-	-	-	-	-	-	-	-	M20
A ₁₀	-	-	-	-	-	-	-	-	425
R ₁	-	-	-	-	-	-	-	-	360
P ₁	-	-	-	-	-	-	-	-	380
HubX8H	-	-	-	-	-	-	-	-	N55X1.25X42
	-	-	-	-	-	-	-	-	N80X3X25

NOTE: - unavailable.

9.

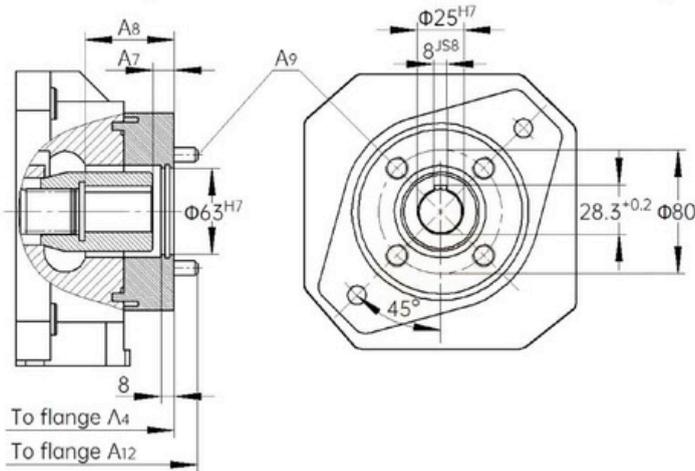


Code K99 (with non-pressure-resistant or pressure-resistant plugged cover, prepared for through-drive)

1 st P Dimension	K4VSO40	K4VSO71/80	K4VSO125	K4VSO180	K4VSO200	K4VSO250	K4VSO355	K4VSO370	K4VSO500
N ₅	Φ52	Φ63	Φ70	Φ70	Φ70	Φ87	Φ87	Φ87	Φ115
D ₀	Φ118	Φ130	-	-	-	-	-	-	-
H ₀	9	9	9	9	9	9	9	9	11 (chamfer C1)
A ₄	263	291	347	371	371	431	460	460	505
A ₇	51.3±1	48±1	49.7±1	49.7±1	49.7±1	61.4±1	61.4±1	61.4±1	73
A ₈	65.3	64	71.7	74.7	74.7	91.9	95.4	95.4	114
A ₁₁	280	310	368	392	392	455	487	487	527
A ₁₂	44	38	46	46	46	64	64	64	75
R ₁	-	-	Φ94	Φ94	Φ94	Φ126	Φ126	Φ126	Φ200
A ₁₀	-	-	M14X15	M14X15	M14X15	M20X22	M20X22	M20X22	M16X24
R ₂	-	-	-	-	-	-	-	-	94±0.4
A ₁₀₊	-	-	-	-	-	-	-	-	M16X30
R ₃	-	-	-	-	-	116.3±0.3	116.3±0.3	116.3±0.3	120±0.4
R ₅	-	-	-	-	-	172.4±0.3	172.4±0.3	172.4±0.3	224±0.4
R ₄	74±0.4	90±0.3	158.4±0.3	158.4±0.3	158.4±0.3	172.4±0.3	172.4±0.3	172.4±0.3	200±0.4
R ₄₊	0	30.8±0.3	△	△	△	116.3±0.3	116.3±0.3	116.3±0.3	144±0.4
A ₉	M12X25	M12x25	M12x18	M12x18	M12x18	M10x15	M10x15	M10x15	M20x24
O ₁	Φ97.6 ^{-0.4}	Φ106.4 ^{-0.4}	Φ118 ^{H7}	Φ118 ^{H7}	Φ118 ^{H7}	Φ160 ^{H7}	Φ160 ^{H7}	Φ160 ^{H7}	Φ160 ^{-0.7 -0.2}
O ₂	Φ105 ^{g6}	Φ116 ^{g6}	Φ121 ^{-0.1}	Φ121 ^{-0.1}	Φ121 ^{-0.1}	Φ163 ^{-0.1}	Φ163 ^{-0.1}	Φ163 ^{-0.1}	Φ169 ^{-0.4}
O ₃	2.3 ^{+0.1}	2.7 ^{+0.1}	2.8 ^{+0.2}	2.3					
O-ring	99X3	110.72X3.53	118X2	118X2	118X2	160X2	160X2	160X2	165X3
Keyed shaft X9g	W25X1.25X18	W30X1.25X22	W35X1.25X26	W35X1.25X26	W35X1.25X26	W42X1.25X32	W42X1.25X32	W42X1.25X32	W55X1.25X42

NOTE: - unavailable; △ pending.

10.



Code K57 (2nd pump radial piston pump R4; 2nd pump's flange ISO 3019-2 – 63B4HW)

1 st P Dimension	K4VSO40	K4VSO71/80	K4VSO125	K4VSO180	K4VSO200	K4VSO250	K4VSO355	K4VSO370	K4VSO500
A ₄	288	319	△	△	△	△	△	△	△
A ₇	11	10.9	△	△	△	△	△	△	△
A ₈	67	52.9	△	△	△	△	△	△	△
A ₉	M8	M8	M8	M8	M8	M8	M8	M8	M8
A ₁₂	297	328	△	△	△	△	△	△	△
HubXBH	N25X1.25X18	N30X1.25X22	N35X1.25X26	N35X1.25X26	N35X1.25X26	N42X1.25X32	N42X1.25X32	N42X1.25X32	N55X1.25X42
	keyed s. $\Phi 25$								

NOTE: △ pending.

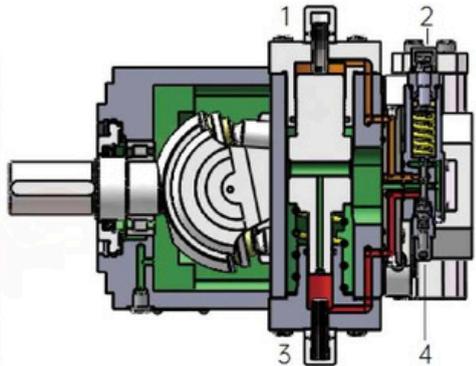
SERVICE

Guangdong KEDA Hydraulic Technology Co., LTD. is a recognized premier provider of hydraulic parts and service in southern China. We are committed to develop high pressure axial piston pumps & motors, lay out hydraulic power units and come up with system solutions. Our team of qualified experts and skilled technicians can help you to get customized solutions for actual applications as well as reliable, affordable, competitive & innovative hydraulic products. Further requirements like maintenance or reformation of equipment/system are also welcome. Please feel free to contact us!



COMMISSIONING

Cap nut	Remarks
1	To adjust the maximum displacement.
2	For DR control: adjust working pressure For DRG control: adjust control pressure (20bar)
3	To adjust the minimum displacement. (CAUTION: Default setting! Don't move!)
4	To adjust the response time.



COUPLING ASSEMBLY

1. Install the specified coupling half onto the drive shaft of the axial piston unit following instructions.
2. Clamp the coupling hub onto the drive shaft or ensure a permanent lubrication of the drive shaft. This prevents the formation of frictional corrosion and the associated wear.
3. Transport the axial piston unit to the installation location and remove dirt and contaminants there.
4. Install the coupling on the drive shaft of the machine/system in accordance with the specifications. Fix the axial piston unit (may not be bolted down until the coupling has been correctly installed).
5. Do not install the coupling hub onto the drive shaft of the axial piston unit by striking it.

TRANSPORTATION



▲ via lifting strap



▲ via hooks



▲ via forklift