HYDRAULIC
PISTON PUMP

Qingdao Weitai Hydraulic Co., Ltd.



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HYDRAULIC 威泰液压

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Product catalog

Swashplate Axial Piston Pump

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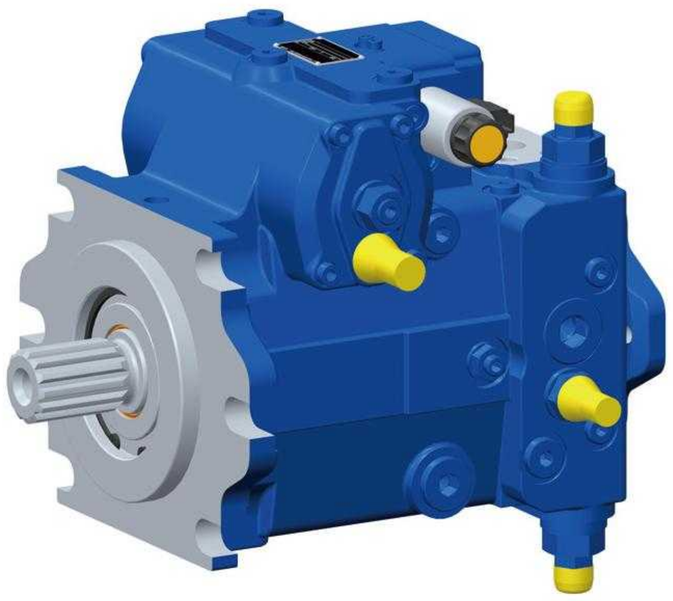
A4VG Swashplate Piston Pump



- Variable axial piston pump of swashplate design for applications in a closed circuit
- Flow rate is proportional to the driving speed and displacement, and can be infinitely varied from the minimum to maximum displacement .
- Flow direction changes smoothly when the swashplate is moved through the neutral position
- Large variety of controls
- Pressure relief valve is provided on each pressure port to protect hydrostatic transmission from overloading
- High pressure relief valves with integrated boost function
- Integrated boost pump has functions to replenish and control oil
- Maximum boost pressure is limited by integrated boost pressure relief valve

Type code

A4VG	56	EP4	D		M		1	/	32	1	-	N	S	C	02	F	02	3	P		P
01	02	03	04	05	06	07	08		09	10		11	12	13	14	15	16	17	18	19	20

Axial piston pump

01	Swashplate design, variable, nominal pressure 400bar, maximum pressure 450bar, closed circuit.	A4VG

Size

02	Maximum displacement	mL/r	56	71	90	125	180

Control devices

				56	71	90	125	180	
03	Without control module			○	○	○	○	○	NV
	Proportional control hydraulic	Pilot-pressure related p=(6~18)bar		○	○	○	○	○	HD3
		Mechanical servo		○	○	○	○	○	HW
	Proportional control electric	Solenoid, filtration	U=12V DC	●	●	●	●	●	EP3
			U=24V DC	●	●	●	●	●	EP4
	Two-point control electric	Solenoid with switch	U=12V DC	○	○	○	○	○	EZ1
			U=24V DC	○	○	○	○	○	EZ2
	Automatic control	Speed related	U=12V DC	-	-	-	-	-	DA1
			U=24V DC	-	-	-	-	-	DA2
	Hydraulic control	direct operated		-	-	-	-		-
	Electric control direct operated	Pressure reducing valve	U=12V DC	-	-	-	-	-	ET5
			U=24V DC	-	-	-	-	-	ET6

Pressure cut-off

		56	71	90	125	180	
04	Pressure cut-off	●	●	●	●	●	D
	Without pressure cut-off	●	-	-	-	-	

Neutral position (only for HW)

		56	71	90	125	180	
05	Without neutral switch (without code)	●	●	●	●	●	
	With neutral switch (only for DEUTSCH)	○	○	○	○	○	L

Mechanical stroke limiter

		56	71	90	125	180	
06	Without mechanical stroke limiter (without code)	○	○	○	○	○	
	With mechanical stroke limiter, externally adjustable	●	●	●	●	●	M

Stroking chamber pressure port

		56	71	90	125	180	
07	Without stroking chamber pressure port X3, X4 (without code)	●	●	●	●	●	
	With stroking chamber pressure port X3, X4	○	○	○	○	○	T

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DA control valve

			56	71	90	125	180	
08	Without DA control valve		●	●	●	●	●	1
	DA control valve, fixed setting		●	-	-	-	-	2
	DA control valve, mechanically adjustable with position lever	Direction of actuation, clockwise	-	-	-	-	-	3D
		Direction of actuation, counter-clockwise	-	-	-	-	-	3L
	DA control valve, fixed setting, ports for pilot control device		-	-	-	-	-	7
	DA control valve, fixed setting and brake inch valve mounted, control with brake fluid		-	-	-	-	-	8

Series

09	Series 3, index 2	32

Direction of rotation

10	Viewed on drive shaft	clockwise	R
		counter-clockwise	L

Sealing material

11	NBR, shaft seal in FKM	N

Drive shaft

			56	71	90	125	180	
12	**Splined shaft DIN5480**	for single pump	●	●	●	●	●	Z
		for combination pump -1st pump	●	●	●	●	-	A
	Splined shaft ANSI B92.1a-1976	for single pump	●	●	●	●	●	S
		for combination pump -1st pump	●	●	●	●	●	T
		only for combination pump- 2nd pump	-	-	●	-	-	U

Mounting flange

			56	71	90	125	180	
13	SAE J744	2-hole	●	-	-	-	-	C
		4-hole	-	-	-	-	●	D
		2+4-hole	-	●	●	●	-	F

Working ports

			56	71	90	125	180	
14	SAE working port A/B, top and bottom	Suction port S bottom	●	●	●	●	●	02
	SAE working port A/B, top and bottom	Suction port S top	-	-	-	-	-	03
	SAE working port A/B, same side right (without filtration)	Suction port S bottom	-	●	-	-	-	10
	SAE working port A/B, same side left (without filtration)	Suction port S bottom	-	●	-	-	-	
	SAE working port A/B, same side right (without filtration)	Suction port S top	-	●	-	-	-	13
	SAE working port A/B, same side left (without filtration)	Suction port S top	-	●	-	-	-	

Boost pump

15	Without integrated boost pump	without through drive	N
		with through drive	K
	With integrated boost pump	with and without through drive	F

Through drive

				56	71	90	125	180	
16	Without through drive (only for version N and F)			○	○	○	○	●	00
	Flange SAE J744	Hub for splined shaft							
	82-2 (A)	5/8in	9T 16/32DP	●	●	●	●	●	01
	101-2 (B)	7/8in	13T 16/32DP	●	●	●	●	●	02
		1in	15T 16/32DP	●	●	●	●	●	04

Through drive

				56	71	90	125	180	
16	127-2（C）	1in	15T 16/32DP	-	-	-	-	-	09
		1 1/4in	14T 12/24DP	●	●	●	●	●	07
	152-2/4（D）	W35 2×16×9g	（DIN 5480）	-	-	●	-	-	73
		1 3/4in	13T 8/16DP	-	-	-	●	●	69
	165-4（E）	1 3/4in	13T 8/16DP	-	-	-	-	●	72

High pressure relief valve　　Setting range △p

			56	71	90	125	180	
17	High pressure relief valve pilot operated　100~420bar　With bypass		-	●	●	●	●	1
	High pressure relief valve direct operated fixed setting　250~420bar	Without bypass	●	●	●	●	●	3
		With bypass	●	-	-	-	-	5
	High pressure relief valve direct operated fixed setting　100~250bar	Without bypass	●	-	-	-	-	4
		With bypass	●	-	-	-	-	6

		56	71	90	125	180	
18	Filtration in the boost pump suction line (excluding supply oil filtration)	●	●	●	●	●	S
	Filtration in the boost pump pressure line Ports for external boost circuit filtration (Fe and Fa)	●	●	●	●	●	D
	Attachment filter with cold start valve	●	●	●	●	●	F
	Attachment filter with cold start valve and visual contamination indicator	●	●	●	●	●	P
	Attachment filter with cold start valve and electric contamination indicator	-	-	-	-	-	B
	External boost pressure supply（version without integrated boost pump -N00，K...）	-	●	●	●	●	E

Swivel angle sensor

		56	71	90	125	180	
19	Without swivel angle sensor (without code)	●	●	●	●	●	
	With swivel angle sensor	-	-	-	-	-	R

Connector for solenoids

			56	71	90	125	180	
20	Without connector (without code) only for purely hydraulic control		●	●	●	●	●	
	DEUTSCH molded connector，2-pin	without suppressor diode	●	●	●	●	●	P
		With suppressor diode(only for EZ and DA)	○	○	○	○	○	Q

Technical data

Displacement (mL/r)	Nominal pressure (bar)	Max. pressure (bar)	Nominal speed (r/min)	Max. speed (r/min)	Max. power (kW)	Weight (kg)
56	400	450	3600	3900	134	40
71			3300	3600	156	50
90			3050	3300	183	60
125			2850	3250	238	80
180			2500	2900	300	101

● =Available　○ =On request　- =Not available

A10VG Swashplate Piston Pump



- Variable axial piston pump of swashplate design for applications in a close circuit
- Flow direction changes smoothly when the swashplate is moved through the neutral position
- Large variety of controls
- Pressure relief valve is provided on each pressure port to protect the hydrostatic transmission from overloading
- High pressure relief valves with integrated boost function
- Integrated boost pump has functions to replenish and control oil
- Maximum boost pressure is limited by integrated boost pressure relief valve

Type code

A10VG	28	EP4	D		M		I	/	10	R	-	N	S	C	10	F	02	3	D	P
01	02	03	04	05	06	07	08		09	10		11	12	13	14	15	16	17	18	19

Axial piston pump

01	Swashplate design variable nominal pressure 300bar maximum pressure 350bar, closed circuit.	A10VG

Size

02	Maximum displacement	mL/r	28	45	55

Control devices

			28	45	55	
03	Manual control		-	-	-	MD
	Hydraulic control	Pilot-pressure related, with filtration	○	○	-	HD3
		Mechanical servo	●	●	●	HW
		Direct operated	●	●	-	DG
		Speed related U=12V DC	-	-	-	DA1
		(see DA control valve instruction on 08) U=24V DC	-	-	-	DA2
	Electric control	With proportional solenoid with inlet filtration U=12V DC	●	●	●	EP3
		U=24V DC	●	●	●	EP4
		With switching solenoid U=12V DC	○	○	○	EZ1
		U=24V DC	○	○	○	EZ2

Pressure cut-off

		28	45	55	
04	Without pressure cut-off (not suitable for DA, without code)	●	●	●	
	With pressure cut-off	●	●	●	D

Neutral position switch (only for HW)

		28	45	55	
05	Without neutral switch (without code)	●	●	●	
	With neutral switch (only for DEUTSCH)	○	○	○	L
06	Without mechanical stroke limiter (without code)	●	●	●	
	Mechanical stroke limiter, externally adjustable	-	-	-	M

Spring centering of neutral position (only for MD)

		28	45	55	
07	Without spring centering of neutral position(without code)	●	●	●	
	With spring centering of neutral position	-	-	-	N

DA control valve

		28	45	55	
08	Without DA control valve	●	●	●	1
	With DA control valve 、fixed setting	-	●	-	2

Series

09	Series 1, index 0	10

Direction of rotation

10	Viewed on drive shaft	Clockwise	R
		Counter-clockwise	L

Sealing material

11	NBR, shaft seal in FKM	N

Drive shaft

			28	45	55	
12	Splined shaft ANSI B92.1a-1976	for single pump	●	●	●	S
		for combination pump	○	●	●	T

Mounting flange

13	SAE J744-2 Bolt hole	C

Working port (Metric thread)

		28	45	55	
14	SAE working port A/B, same side left, suction port S bottom	●	●	●	10
	SAE working port A and B, same side right, Suction port S bottom	-	-	-	16

Boost pump

			28	45	55	
15	Without integrated boost pump	without through drive	○	○	○	N00
		with through drive	○	○	○	K..
	With integrated boost pump	without through drive	●	●	●	F00
		with through drive	●	●	●	F..

Through drive

				28	45	55	
16	Flange SAE J744	Hub for splined shaft					
	82-2 (A)	5/8in	9T 16/32DP	○	○	○	.01
	101-2 (B)	7/8in	13T 16/32DP	●	●	○	.02
		1in	15T 16/32DP	●	●	●	.04
	127-2 (C)	1 1/4in	14T 12/24DP	○	○	○	.07

High pressure relief valve

		Setting range △p		28	45	55	
17	High pressure relief valve, direct operated, fixed setting	250~320bar	Without bypass	○	○	●	3
			With bypass	●	●	○	5
		100~250bar	Without bypass	○	○	○	4
			With bypass	○	○	○	6

Filtration

		28	45	55	
18	Filtration in the boost pump suction line (excluding supply oil filtration)	●	●	●	S
	Filtration in the boost pump pressure line Ports for external boost circuit filtration (Fe and Fa)	●	●	●	D
	External boost pressure supply (version without integrated boost pump -N00, K...)	●	●	●	E

Connector for solenoids (only for EP/EZ/and DA)

			28	45	55	
19	DEUTSCH molded connector, 2-pin	without suppressor diode	●	●	○	P
		With suppressor diode (only for EZ and DA)	○	○	○	Q

Technical data

Displacement (mL/r)	Nominal pressure (bar)	Max.pressure (bar)	Nominal speed (r/min)	Max. speed (r/min)	Max. power (kW)	Weight (kg)
28	300	350	3900	4200	54.6	25
45			3300	3550	75.9	27
55	250	350	3000	3200	93.8	28

● =Available ○ =On request - =Not available

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A21VG Swashplate Piston Pump



- Variable axial piston pump of swashplate design for applications in a close circuit
- Flow direction changes smoothly when the swashplate is moved through the neutral position
- Large variety of controls
- Pressure relief valve is provided on each pressure port to protect the hydrostatic transmission from overloading
- High pressure relief valves with integrated boost function
- Integrated boost pump has functions to replenish and control oil

Type code

A21VG	C		45	E1	A	0	/	R	N	B4	3	K	B1	-	E
01	02	03	04	05	06	07		08	09	10	11	12	13		14

Axial piston unit

①	Swashplate design, variable	A21VG

Operating mode

②	Pump, closed circuit	C

Variable mechanism		23	45	56	Code
③	With servo piston	●	●	●	Blank
	Without servo piston （manual variable）		●		S

Size

④	Size	23	45	56

Control mode		23	45	56	Code
⑤	Proportional control, electric U = 12 V DC	●	●	●	E1
	Proportional control, electric U = 24 V DC	●	●	●	E2
	Mechanical servo control		●	○	H1
	Hydraulic control direct operated – optimized for hydraulic control	●	●	○	H3
	Manual direct displacement control		●		H5

Remark: V90C47 when selecting without servo piston (manual variable), please choose manual direct variable control as the control method.

DA control valve		23	45	56	Code
⑥	Without swivel DA control valve	●	●	●	Blank
	Swivel DA control valve		●	○	A

Remark: V90C47when selecting without servo piston (manual variable), without swivel DA control valve.

Connection type		23	45	56	Code
⑦	ANSI, port threads with O-ring seal according to ISO 11926		●	●	0
	Inch thread, port threads with ED flat washer seal according to ISO 1179	●			E

Rotation

⑧	Right hand (clockwise)	R
	Left hand (counter-clockwise)	L

Sealing material

⑨	NBR (nitrile rubber) Shaft seal in FKM (fluoroelastomer)	N

Mounting flangew and drive shaft

	Mounting flange	Drive shaft	23	45	56	Code
⑩	SAE J744 101-2	ANSI B92.1 7/8 in 13T 16/32DP	●			B1
		ANSI B92.1 1 in 15T 16/32 DP		●		B3
		ANSI B92.1 1 1/4 in 14T 12/24 DP		●	○	B4
		ANSI B92.1 1 1/4 in 19T 16/32 DP		●	○	B5
		ANSI B92.1 1 3/8 in 21T 16/32 DP			●	B6

Working port

		23	45	56	Code
⑪	Threaded ports A1, B1, A2,and B2,left and right sides (viewed on drive shaft)	●	● *1		2
	Threaded ports A and B, left (viewed on drive shaft)		● *2	●	3
	Threaded ports A and B, right (viewed on drive shaft) – consult factory		○		4

Remark: 1. Currently only available for V90CS47. 2. Currently only available for V90C47.

Boost pump and rotary group configuration

		23	45	56	Code
⑫	Standard rotary group, without boost pump		●	●	K
	Standard rotary group, built-in boost pump	●	●		F

Remark: V90C47when selecting without servo piston (manual variable), without boost pump.

Through drive

			23	45	56	Code
⑬	Without through drive		●	○		None
	Flange	Splined shaft				
	SAE A J744-82-2	ANSI B92.1 5/8 in 9T 16/32 DP	●	○		A1
		ANSI B92.1 3/4 in 11T 16/32 DP		○		A2
		ANSI B92.1 7/8 in 13T 16/32 DP		○		A3
	SAE B J744-101-2	ANSI B92.1 7/8 in 13T 16/32DP		●	●	B1
		ANSI B92.1 1 in 15T 16/32 DP		○		B3

Standard / special version

			23	45	56	Code
⑭	Standard version		●	●	●	Blank
	Special version	Pilot shut-off valve, 12 V DC		●	●	E
		Pilot shut-off valve, 24 V DC		○		F

Technical data

Size			23	47	56
Displacement (cc/rev)			23×2	47×2	56×2
Speed	Rated (rpm)		3300	3300	3000
	Max. (rpm)		3600	3550	3250
	Min. (rpm)		500	500	500
Pressure	Rated (bar)		250	420	420
	Max. (bar)		300	450	450
	Min. (bar)	High-pressure side	20	25	25
		Low-pressure side	10	10	10
Charge pump displacement (cc/rev)			9.4	15/20	-
Casting pressure	Rated (bar)		1.5	3	3
	Max. (bar)(Short-time peak pressure)		2.5	5	5
Oil viscosity (mm^2/s)			10~1000, Best range: 16~36		
Oil temperature (°C)			-20~95		
Oil cleanliness			ISO 4406 Class 20/18/15 or higher		
Weight (Kg)			28	56	60.3

● = Available; ○ = On request

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A10V(S)O(31) Swashplate Piston Pump



- Variable axial piston pump of swashplate design for applications in a close circuit
- Flow rate is proportional to the driving speed and displacement, and can be infinitely varied from the minimum to maximum displacement.
- Large variety of controls
- Low noise level
- Excellent suction performance
- High Reliability, long service life.

Type code

A10V(S)	O	71	DR	/	31	R	–	P	S	C	62	N00
01	02	03	04	/	05	06		07	08	09	10	11

Axial piston pump

01	Swashplate design variable nominal pressure 280bar, maximum pressure 350bar	A10V(S)

Operating mode

02	Pump open circuit	O

Size

03	Maximum displacement mL/r	28	45	71	74	80	100	110	71

Control devices

04	Pressure control		●	●	●	●	●	●	●	DR
	Remote pressure control		●	●	●	●	●	●	●	DRG
	Pressure and flow control		●	●	●	●	●	●	●	DFR
										DFR1
	Pressure flow and power control		●	●	●	●	●	●	●	DFLR
	Flow and power control		●	●	●	●	●	●	●	FLR
	Electric positive control (flow)	U=12V DC	-	-	○	○	○	○	○	EP1D
		U=24V DC	-	-	○	○	○	●	●	EP2D
	Electric negative control (pressure)	U=12V DC	-	○	○	○	○	○	○	ED71
		U=24V DC	●	●	●	●	●	●	●	ED72

Series

05		31

Direction of rotation

06	Viewed on drive shaft	clockwise	R
		counter-clockwise	L

Sealing material

07	NBR	P
	FKM	V

Drive shaft		28	45	71	74	80	100	110	
08	SAE splined shaft , standard shaft	●	●	●	●	○	●	●	S
	SAE splined shaft , reinforced shaft	●	●	●	●	○	○	○	R
	SAE splined shaft , shaft “U	○	●	●	●	○	○	○	U
	SAE splined shaft ,reinforced shaft “U”	○	○	○	○	○	○	○	W
	British standard parallel keyed shaft	●	●	●	●	○	●	○	K
	Metric parallel keyed shaft	●	●	●	●	○	●	○	P

Mounting flange		28	45	71	74	80	100	110	
09	SAE J744 2-hole	●	●	●	●	○	●	●	C
	ISO 3019-1 2-hole	●	●	●	●	○	●	●	A
	SAE J744 4-hole	-	-	-	-	-	●	●	D

Working port		28	45	71	74	80	100	110	
10	SAE flange ,rear, fastening thread ,British ,only for version without through drive	●	●	●	●	○	●	○	61
	SAE flange, at side ,fastening British, metric	●	●	●	●	○	●	○	62
	SAE ,rear, fastening thread, metric ,only for version without through drive	○	○	●	●	○	-	○	11
	SAE flange, at side ,fastening thread, metric	●	●	●	●	○	●	●	12
	SAE flange ,rear, fastening thread ,metric ,only for version without through drive	-	-	●	●	○	-	-	41
	SAE flange, at side ,fastening thread, metric	-	-	●	●	○	-	-	42

Through drive			28	45	71	74	80	100	110	
11	Without through drive		●	●	●	●	●	●	●	N00
	With through drive									
	Flange SAE J744	Hub for splined shaft								
	82-2(SAE A)	5/8in 9T 16/32DP	●	●	●	●	○	●	○	K01
	82-2(SAE A)	3/4in 11T 16/32DP	●	○	●	●	○	●	○	K52
	101-2(SAE B)	7/8in 13T 16/32DP	●	○	●	●	○	●	○	K02
	101-2 (SAE B)	7/8in 13T 16/32DP	-	●	●	●	○	●	●	K68
	101-2 (SAE B)	1in 15T 16/32DP	-	-	●	●	○	●	○	K04
	127-2 (SAE C)	1 1/4in 14T 12/24DP	-	-	●	●	○	●	○	K07
	127-2 (SAE C)	1 1/2in 17T 12/24DP	-	-	-	-	-	●	○	K24

Technical data

Displacement (mL/r)	Nominal pressure (bar)	Max. pressure (bar)	Nominal speed (r/min)	Max. speed (r/min)	Max. power (kW)	Weight (kg)
28	280	350	3000	3600	39	15
45			2600	3100	55	21
71			2200	2600	73	33
74			2200	2600	76	33
80			2200	2600	83	33
100			2000	2400	93	45
110			2000	2400	102	46

● =Available ○ =On request - =Not available

WEITAI

A10V(S)O(52/53) Swashplate Piston Pump



- Axial piston pump of swashplate design for applications in an open circuit
- Flow rate is proportional to the driving speed and displacement and can be infinitely varied from the minimum to maximum displacement
- Large variety of controls
- Low noise level, quick response.
- Good power-to-weight ratio

Type code 52 series

A10V(S)	O	45	DR	/	52	R	–	P	S	C	62	N00
01	02	03	04		05	06		07	08	09	10	11

Axial piston pump

01	Swashplate design, variable, nominal pressure 280bar, maximum pressure 350 bar	A10V(S)

Operating mode

02	Pump, open circuit	O

Size

03	Maximum displacement	mL/r	28	45	60	

Control devices

04	Pressure control		-	●	-	DR
	Remote pressure control		-	●	-	DRG
	Pressure and flow control		-	●	-	DFR
						DFR1
	Electric negative control(pressure)	U=12V DC	-	●	-	ED71
		U=24V DC	-	●	-	ED72

Series

05		52

Direction of rotation

06	Viewed on drive shaft	clockwise	R
		counter-clockwise	L

Sealing material

07	NBR	P
	FKM	V

Drive shaft		28	45	60	
08	SAE splined shaft , standard shaft	-	●	-	S
	SAE splined shaft , shaft “U”	-	●		U
	SAE splined shaft , reinforced shaft “U”	-	●	-	W
	British standard parallel keyed shaft	-	●	-	K
	Metric parallel keyed shaft	-	●	-	P

Mounting flange		28	45	60	
09	SAE J744 2-hole	-	●	-	C
	ISO 3019-1 2-hole	-	●	-	A

Working port

		28	45	60	
10	SAE flange ,rear, fastening thread ,British ,only for version without through drive	-	●	-	61
	SAE flange, at side ,fastening thread, British	-	●	-	62
	SAE ,rear, fastening thread, metric ,only for version without through drive	-	●	-	11
	SAE flange, at side ,fastening thread, metric	-	●	-	12
	SAE flange ,rear, fastening thread ,British, only for version without through drive	-	●	-	64

Through drive

			28	45	60	
11	Without through drive		-	●	-	N00
	With through drive					
	Flange SAE J744	Hub for splined shaft				
	82-2(SAE A)	5/8in 9T 16/32DP	-	●	-	K01
		3/4in 11T 16/32DP	-	●	-	K52
	101-2 (SAE B)	7/8in 13T 16/32DP	-	●	-	K68
		1 in 15T 16/32DP	-	●	-	K04

A10V(S)	O	72	DR	/	53	R	–	P	S	C	62	N00
01	02	03	04		05	06		07	08	09	10	11

01	Swashplate design、variable 、nominal pressure 280bar, maximum pressure 350bar	A10V(S)

Operating mode

02	Pump、open circuit	O

03	Maximum displacement	28	45	60/63	72	100	110	130	72

Control devices

04	Pressure control		○	●	●	●	●	●	●	DR
	Remote pressure control		○	●	●	●	●	●	●	DRG
	Pressure and flow control		○	●	●	●	●	●	●	DFR DFR1
	Pressure flow and power control **Start of power** 10~35bar		○	○	○	○	○	○	○	LA5DS
	Pressure flow and power control **Start of power** 36~70bar		○	○	○	○	○	○	○	LA6DS
	Pressure flow and power control **Start of power** 71~105bar		○	●	●	●	○	○	○	LA7DS
	Pressure flow and power control **Start of power** 106~140bar		○	●	●	○	○	○	○	LA8DS
	Pressure flow and power control **Start of power** 141~230bar		○	●	●	●	○	○	○	LA9DS
	Electric positive control (pressure)	U=12V DC	○	●	●	●	●	○	○	ED71
		U=24V DC	○	●	●	●	●	●	●	ED72
	Electric negative control (flow)	U=12V DC	○	○	○	○	○	●	●	EP1D
		U=24V DC	○	○	○	○	○	●	●	EP2D
		U=12V DC	○	○	○	○	●	●	●	EK1DS
		U=24V DC	○	○	○	○	●	●	●	EK2DS

Series

05		53

Direction of rotation

06	Viewed on drive shaft	clockwise	R
		counter-clockwise	L

Sealing material

07	NBR	P
	FKM	V

Drive shaft

		28	45	60/63	72	100	110	130	
08	SAE splined shaft , standard shaft	○	○	●	●	○	●	●	S
	SAE splined shaft , reinforced shaft	○	○	●	●	○	○	○	R
	SAE splined shaft , shaft “U”	○	○	●	●	○	○	○	U
	SAE splined shaft , reinforced shaft “U”	○	○	○	○	○	○		W
	British parallel keyed shaft	○	○	●	○	○	○	○	K
	Metric parallel keyed shaft	○	○	○	○	○	○	○	P

Mounting flange

		28	45	60/63	72	100	110	130	
09	SAE J744 2 -hole	○	○	●	●	●	●	●	C
	ISO 3019-1 2 -hole	○	○	●	●	○	○	○	A
	SAE J744 4 -hole	○	○	●	●	○	○	○	D

Working port

		28	45	60/63	72	100	110	130	
10	SAE flange ,rear, fastening thread ,British , only for version without through drive	○	○	●	●	○	-	-	61
	SAE flange, at side ,fastening thread,British	○	○	●	●	○	○	○	62
	SAE ,rear, fastening thread, metric ,only for version without through drive	○	○	●	●	○	-	-	11
	SAE flange, at side ,fastening thread, metric	○	○	●	●	○	●	●	12
	SAE flange ,rear, fastening thread ,British , only for version without through drive	○	○	○	○	○	-	-	64

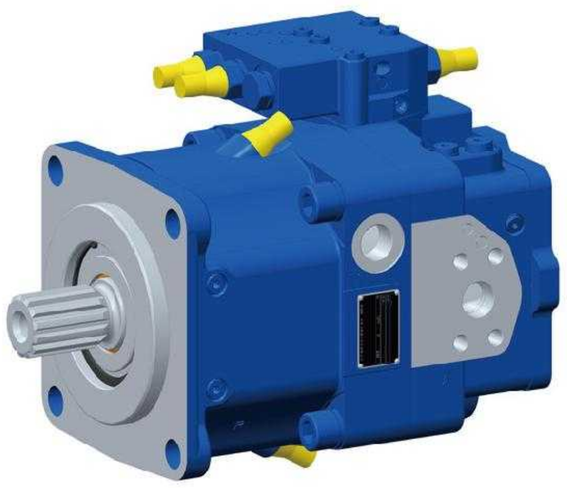
Through drive

			28	45	60/63	72	100	110	130	
11	Without through drive		○	○	●	●	●	●	●	N00
	With through drive									
	Flange SAE J744	Hub for splined shaft								
	82-2(SAE A)	5/8in 9T 16/32DP	○	○	●	●	○	○	○	K01
		3/4in 11T 16/32DP	○	○	○	○	○	○	○	K52
	101-2(SAE B)	7/8in 13T 16/32DP	○	○	●	●	●	●	●	K68
		1in 15T 16/32DP	-	-	●	●	○	○	○	K04
	127-2(SAE C)	1 1/4in 14T 12/24DP	-	-	-	-	○	○	○	K07
		1 1/2in 17T 12/24DP	-	-	-	-	●	●	●	K24

Displacement (mL/r)	Nominal pressure (bar)	Max. pressure (bar)	Nominal speed (r/min)	Max. speed (r/min)	Max. power (kW)	Weight (kg)
28	250	315	3000	3600	35	15
45			2600	3120	49	18
60/63			2600	3140	65/68	22
72			2600	3140	77	22
100	320	350	2000	2400	106	43
110			2000	2400	116	43
130			1800	2000	124	45

● =Available ○ =On request - =Not available

A11V(L)O Swashplate Piston Pump



- Variable axial piston pump of swashplate design for applications in an open circuit
- Integrated boost pump for effectively improving self-priming capability
- Large variety of controls
- The through drive is suitable for adding pumps up to the same , i.e100% through drive

A11V	L	O	145	LRDS	/	1	1	R	-	N	Z	D	12	K02	P	-S
01	02	03	04	05		06	07	08		09	10	11	12	13	14	15

Axial piston pump

01	Swashplate design ,variable	A11V

Charging pump

		95	115	125	130	145	165	190 215	260 280	
02	Without charging pump(without code)	●	●	●	●	●	●	-	-	
	With chargin pump	-	-	-	●	●	●	●	●	L

03	Pump, open circuit	O

Size

			95	115	125	130	145	165	190 215	260 280
04	Vgmax	mL/r	95	115	125	130	145	165	190 215	260 280

Control devices

05	Power control		●	●	●	○	●	●	●	●	
	With pressure cut-off		●	●	●	○	●	●	●	●	L D
	With load-sensing		●	●	●	○	●	●	●	○	L..S
	Override electric-proportional 24V		●	●	○	○	○	○	○	○	L..S2
	Override control	Override electric 24V negative control	●	●	○	○	○	○	○	○	LE2
	Stroke control	Positive control p=2.5MPa	○	○	○	○	○	○	○	○	L..H2
	Positive control	U=24V	●	●	●	●	●	●	●	●	L..U2
	Electric control with solenoid		●	●	○	○	○	●	○	○	EP2
	Pressure cut-off		●	●	●	○	●	●	○	○	
	Pressure control	remote controlled	○	○	○	●	○	○	○	○	DRG

Series

06		1

Index

07		Size 95...115	0
		Size 125...280	1
08	Viewed on drive shaft	Clockwise	R
		Counter clockwise	L

Sealing material

09	NBR, FKM	N

		95	115	125	130	145	165	190 215	260 280	
10	Splined shaft DIN 5480	●	●	●	●	●	●	●	●	Z
	Splined shaft **ANSI B92.1a-1976**	●	●	●	●	●	●	●	●	S

Mounting flange

11	SAE J744 4-hole	D

Working port

12	SAE flange ports, opposite side, metric thread	12

Through drive			95	115	125	130	145	165	190 215	260 280	
		Flange Shaft-coupling									
13	—	—	●	●	●	●	●	●	●	●	N00
	82-2(A)	5/8in 9T 16/32DP(A)	●	●	●	●	●	●	○	○	K01
		3/4in 11T 16/32DP(A-B)	○	●	○	●	●	●	○	○	K52
	101-2(B)	7/8in 13T 16/32DP(B)	●	●	●	●	●	●	●	●	K02
		1 in 15T 16/32DP(B-B)	●	●	●	●	●	●	○	○	K04
		W35 2×30×16×9g	●	●	●	●	●	●	○	○	K79
	127-2(C)	1 1/4in 14T 12/24DP(C)	-	●	●	●	●	●	○	○	K07
		1 1/2in 17T 12/24DP(C-C)	-	-	-	●	●	●	○	○	K24
		W30 2×30×14×9g	-	●	●	●	●	●	○	○	K80
		W35 2×30×16×9g	-	●	●	●	●	●	○	○	K61
	152-4(D)	1 1/4in 14T 12/24DP(C)	-	-	●	●	●	●	○	○	K86
		1 3/4in 13T 8/16DP(D)	-	-	●	-	●	●	○	○	K17
		W40 2×30×18×9g	-	-	●	●	●	●	○	○	K81
		W45 2×30×21×9g	-	-	●	●	●	●	○	○	K82
		W50 2×30×24×9g	-	-	●	-	●	●	○	○	K83
	165-4(E)	1 3/4in 13T 8/16DP(D)	-	-	-	-	-	-	○	○	K72
		W50 2×30×24×9g	-	-	-	-	-	-	○	○	K84
		W60 2×30×28×9g	-	-	-	-	-	-	-	○	K67

[1]) 2=2 孔 4=4 孔

Connectors for solenoids		95	115	125	130	145	165	190 215	260 280	
14	DEUTSCH molded connector, 2-pin	●	●	●	●	●	●	●	●	P

Standard/Special version

15	Standard version (without code)	
	Special version	-S

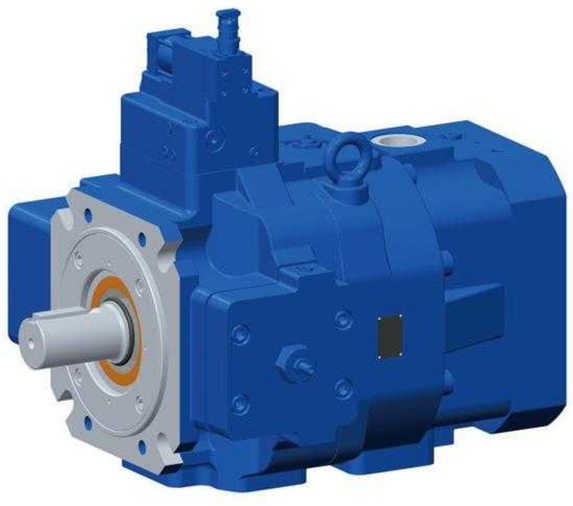
Technical data

Displacement (mL/r)	Nominal pressure (bar)	Max.pressure (bar)	Nominal speed (r/min)	Max. speed (r/min)	Max. power (kW)	Weight (kg)
95	350	420	2350	2780	128	53
115			2300	2500	154	57
125			2300	2500	167	57
130			2200	2500	166	66
145			2200	2500	186	73
145*			2500	2500	211	76
165			2200	2500	211	75
165*			2500	2500	240	78
190*			2500	2500	281	104
215*			2500	2500	313	105
280*			2300	2300	375	138
260			2300	2300	349	138

*With charging pump

● =Available ○ =On request - =Not available

P1V Swashplate Piston Pump



- Axial piston pump of swashplate design for applications in an open circuit
- Flow rate is proportional to the driving speed and displacement, and can be infinitely varied from the minimum to maximum displacement
- Compact structure ， low noise， high power
- Hydraulic servo with programmable control， high control accuracy
- High-pressure and large-displacement piston pump with a maximum pressure exceeding 50MPa

Type code

P1V	440	EP	/	L	P	F	-	J	0
01	02	03		05	06	07		08	09

Axial piston pump

01	Swashplate design variable nominal pressure 450bar， maximum pressure 500bar， open circuit.	P1V

Size

02	Maximum displacement	mL/r	440	540
Control device			440	540
03	Hydraulic servo control with feedback		●	EP

Direction of rotation

04	Viewed on drive shaft	Clockwise	-	R
		Counter-clockwise	●	L
		Bi-directional	-	

Drive shaft

05	International standard parallel keyed shaft (18.0×11.0×63.0)	●	P

Working port

06	flange connection with oil suction port 4.000 SAE 61	●	F

Auxiliary component

07	With integrated valve	●	J

Brake

08	With brake	-	1
	Without brake	●	0

Technical data

Displacement (mL/r)	Nominal pressure (bar)	Max pressure (bar)	Nominal speed (r/min)	Max. speed (r/min)	Max. power (kW)	Weight (kg)
440	450	500	1500	1600	607	421
540	450	500	1500	1600	700	500

● =Available ○ =On request - =Not available

P6V Swashplate Piston Pump



- Axial piston pump of swashplate design for applications in an open circuit
- Flow rate is proportional to the driving speed and displacement, and can be infinitely varied from the minimum to maximum displacement
- Compact structure ， low noise， high power
- Hydraulic servo with programmable control， high control accuracy
- High-pressure and large-displacement piston pump with a maximum pressure exceeding 50MPa

Type code

P6V	65	/	A	V	00	R	B2S2	MG	DR	S
①	②		③	④	⑤	⑥	⑦	⑧	⑨	⑩

Product series

①	Swash plate variable piston pumps, single pump, open circuit	P6V

Size

②	Size	18	28	35	47	65	76	85	105

Design series

		18	28	35	47	65	76	85	105	Code
③										
	A series	●	●	●	●	●	●	●	●	A

Seal

		18	28	35	47	65	76	85	105	Code
④	FKM （Fluoro rubber: DIN ISO 1629）	●	●	●	●	●	●	●	●	V
	NBR （Nitrile rubber: DIN ISO 1629）	●	●	●	●	●	●	●	●	N

Note：Temperature range 08/40.

Through drive

			18	28	35	47	65	76	85	105	Code
⑤	Without through shaft drive, flange ports on both sides		●	●	●	●	●	●	●	●	00
	Without through shaft drive, rear flange ports			●	●	●	●	●	●	●	N1
	Without through shaft drive, thread ports on both sides			●	●	●					N3
	Without through shaft drive, rear thread ports		●			●					N2
	Without through shaft drive, with gear pump 6cc/rev*							●			X1
	Without through shaft drive, with gear pump 10cc/rev*							●			X2
	Without through shaft drive, with gear pump 15cc/rev*					●	●				X3
	Mounting flanges	Through shaft splines									
	SAE A J744-82-2	ANSI B92.1 5/8 in 9T 16/32DP		●	●	●	●	●	●	●	A1
		ANSI B92.1 3/4 in 11T 16/32DP		●	●	●	●	●	●	●	A2
	SAE B J744-101-2	ANSI B92.1 7/8 in 13T 16/32DP		●	●	●	●	●	●	●	B1
		ANSI B92.1 1 in 15T 16/32DP					●	●	●	●	B2
	SAE C J744-127-2	ANSI B92.1 1 1/4 in 14T 12/24DP						●	●	●	C1
		ANSI B92.1 1 1/2 in 17T 12/24DP								●	C2
	SAE C J744-127-4	ANSI B92.1 1 1/4 in 14T 12/24DP						●	●	●	C3
		ANSI B92.1 1 1/2 in 17T 12/24DP								●	C4

Note： " * "Only available with right-handed gear pumps.

Clockwise

		18	28	35	47	65	76	85	105	Code
⑥	CW	●	●	●	●	●	●	●	●	R
	CCW	●	●	●	●	●	●	●	●	L

Input mounting flange

	Mounting flange	Input shaft	18	28	35	47	65	76	85	105	Code
⑦	SAE A J744-82-2	ANSI B92.1 5/8 in 9T 16/32DP	●								A2S
		ANSI B92.1 3/4 in 11T 16/32DP	●								A2S0
	SAE B J744-101-2	ANSI B92.1 7/8 in 13T 16/32DP		●	●	●	●				B2S1
		ANSI B92.1 1 in 15T 16/32DP		●	●	●	●	●			B2S2
		ANSI B92.1 1 1/4 in 14T 12/24DP					●	●			B2S3
		BS46-1 A6.35×28 parallel key		●	●						B2K1
		BS46-1 A6.35×32 parallel key				●	●				B2K2
	SAE C J744-127-2	ANSI B92.1 1 in 15T 16/32DP						●	●		C2S2
		ANSI B92.1 1 1/4 in 14T 12/24DP						●	●	●	C2S3
		ANSI B92.1 1 1/2 in 17T 12/24DP							●	●	C2S4
		ANSI B92.1 1 3/4 in 13T 8/16DP								●	C2S5
		BS46-1 A7.94×44 parallel key						●	●	●	C2K3
	SAE C J744-127-4	ANSI B92.1 1 in 15T 16/32DP					●	●	●		C4S2
		ANSI B92.1 1 1/4 in 14T 12/24DP					●	●	●	●	C4S3
		ANSI B92.1 1 1/2 in 17T 12/24DP							●	●	C4S4
		ANSI B92.1 1 3/4 in 13T 8/16DP								●	C4S5
		BS46-1 A7.94×44 parallel key						●	●	●	C4K3
	ISO 3019-2	DIN 6885 parallel key		●	●	●		●			AP *

Note: "*" is non-standard customised model, please contact Hengli if you need to select the model.

Working port

	Inlet and outlet flange connection thread	Port type	18	28	35	47	65	76	85	105	Code
⑧	UNF Thread	UNF Thread	●	●	●	●	●	●	●	●	SA
		British thread		●	●	●	●	●		●	SG
		Metric Thread	●	●	●	●	●	●		●	SM
	Metric Thread	UNF Thread	●	●	●	●	●	●	●	●	MA
		British thread		●	●	●	●	●		●	MG
		Metric Thread	●	●	●	●	●	●		●	MM

Control type

			18	28	35	47	65	76	85	105	Code
⑨	Pressure cut-off		●	●	●	●	●	●	●	●	DR
	Pressure cut-off + Electro-proportional pressure negative control(Deutsch DT04-2P; 2-pin)	12V	●	●	●	●	●	●	●	●	ER1
		24V	●	●	●	●	●	●	●	●	ER2
	Pressure cut-off + Load sensitive		●	●	●	●	●	●	●	●	L1
	Pressure cut-off + Load sensitive + Throttling unloading		●	●	●	●	●	●	●	●	L0
	Pressure cut-off + Remote pressure		●	●	●	●	●	●	●	●	P0
	Electro-proportional displacement + Pressure cut-off + Load sensitive(Deutsch DT04-2P; 2-pin)	12V		●	○	●	●	●	○	●	ED1
		24V		●	○	●	●	●	○	●	ED2
	Constant power control + Pressure cut-off + Remote pressure		●	●	●	●	●	●	●	●	LP0
	Constant power control + Pressure cut-off + Load sensitive		●	●	●	●	●	●	●	●	LP1
	Constant power control + Pressure cut-off + Load sensitive + Throttling unloading		●	●	●	●	●	●	●	●	LP2
	Electro-proportional power control + Pressure cut-off + Load sensitive(Deutsch DT04-2P; 2-pin)	12V	●	●	●	●	●	●	●	●	LE1
		24V	●	●	●	●	●	●	●	●	LE2
	Flow + Pressure + Power triple closed loop control(Electronic pump)			●		●					PPQ1

Standard / Special version

		18	28	35	47	65	76	85	105	Code
⑩	Standard version	●	●	●	●	●	●	●	●	None
	Special version	○	○	○	○	○	○	○	○	S

Note: ● = Available ○ = On request

Technical Data

Size		18	28	35	47	65	76	85	105
Displacement(cc/rev)		18	28	35	47	65	76	85	104.3
Speed	Rated(rpm)	3300	3000	2850	2700	2600	2400	2400	2200
	Max(rpm)	3900	3600	3400	3250	3140	3000	3000	2600
	Min(rpm)	600							
Pressure	Rated(bar)	300	300	300	320	320	320	320	350
	Peak(bar)	320	320	320	350	350	350	350	400
Case pressure (Relative)	Rated(bar)	2							
	Peak(bar)	4							
Suction pressure (Absolute)	Rated(bar) Oil viscosity ≤ 30mm ^{2}/s	1							
	Peak(bar)	5							
Case oil filling volume (L)		0.4	0.55	0.55	0.6	0.65	0.8	0.9	1
Oil viscosity (mm^2/s)		10~1000, optimal range 16~36							
Oil temperature (°C)		-20~100							
Oil cleanliness		20/18/15 (ISO 4406) and above							
Weight (kg) Without auxiliary flange		15.9	17	18.7	21.5	25	28	33	45

90 Series Swashplate Piston Pump



- Series 90 variable displacement pump is compact, high power density units. All models utilize the parallel axial piston/slipper concept in conjunction with a tiltable swash plate to vary the pump's displacement. Reversing the angle of the swash plate reverses the flow of oil from the pump and thus reverses the direction of rotation of the motor output.

- Series 90 pumps include an integral charge pump to provide system replenishing and cooling oil flow, as well as control fluid flow. They also feature a range of auxiliary mounting pads to accept auxiliary hydraulic pump for use in complementary hydraulic systems. A complete family of control options is available to suit a variety of control systems (mechanical, hydraulic, electric).

- Series 90 hydraulic pump and motor can be applied together or combined with other products in a system to transfer and control hydraulic power. They are intended for closed circuit applications.

Series 90 Master Model Code

R Size M P J G N F L H T W Y Z K

R	Type and Rotation	055	075	100	130	180	250
R	Right Hand [CW]	○	●	●	○	○	○
L	Left Hand [CCw]	○	●	●	○	○	○

	Size	055	075	100	130	180	250
055	55 cc [3.36 in^3] max.displacement per revolution	○					
075	75 cc [4.58 in^3] max.displacement per revolution		●				
100	100 cc [6.10 in^3] max.displacement per revolution			●			
130	130 cc [7.93 in^3] max.displacement per revolution				○		
180	180 cc [10.98 in^3] max.displacement per revolution					○	
250	250 cc [15.26 in^3] max.displacement per revolution						○

M	Controls	055	075	100	130	180	250
CA	Cover plate without feedback link, no control						
DC	3 Positon F-N-R solenoid control (12 V, DC) DIN- connector	○	○	○	○	○	
DD	3 Positon F-N-R solenoid control (24 V, DC) DIN- connector	○	○	○	○	○	○
HF	HDC 2, std. porting, 3,0 - 11 BAR (44 - 160 PSI)	○	○	○	○	○	○
KA	EDC, MS connector, std. porting, dual coil (14 - 85 mA)	●	●	●	●	●	●
KN	EDC, MS connector, std. porting, 643 Ohm single coil (4 - 20 mA)	○	○	○	○	○	○
KT	EDC, Deutsch connector, std porting, dual coil (14 - 85 mA)	○	○	○	○	○	○
KP	EDC, Weatherpack connector, std. porting, dual coil (14 - 85mA)	○	○	○	○	○	○
MA	MDC	●	●	●	●	●	●
MB		○	○	○	○	○	○

	High Pressure Regulation	055	075	100	130	180	250
1	pressure limiter for port A and B (140-450 bar)	●	●	●	●	●	●
2	high pressure relief valves for port A and B (90-450 bar)	○	○	○	○	○	○

J	Auxiliary Mounting Pad	055	075	100	130	180	250
AB	SAE-A with sealed cover, 9 teeth coupling	○	○	○	○	○	○
BB	SAE-BB with sealed cover, 15 teeth coupling	○	○	○	○	○	○
BC	SAE-B with sealed cover, 13 teeth coupling	○	○	○	○	○	○
CD	SAE-C with sealed cover, 4 bolt adapter, 14 teeth coupling, (2) ½-13 UNC	○	○	○	○	○	○
NN	no auxiliary mounting pad	●	●	●	●	●	●

G	Endcap Ports	055	075	100	130	180	250
60	Side Ports	●	●	●			
80	Twin Ports	●	●	●	●	●	●

N	Filtration	055	075	100	130	180	250
D	external charge pump	○	○	○	○	○	○
S	suction fltration	●	●	●	●	●	●

F	Displacement Limitation	055	075	100	130	180	250
C	no limiters, only for 180 cc					○	
M	limitation both sides, only for 180 cc					○	
3	no limiters	○	○	○	○		○
4	limitation both sides	○	○	○	○		○

L	Shaft Options	055	075	100	130	180	250
F1	splined shaft, 13 teeth, pitch = 8 / 16			○	○	○	○
S1	splined shaft, 14 teeth, pitch = 12/24	○	○	○			

H	Charging System	055	075	100	130	180	250
C	nominal fow = 14 cc / rev	○	○				
D	nominal fow = 17 cc / rev	○	○	○			
E	nominal fow = 20 cc / rev		○	○			
F	nominal fow = 26 cc / rev			○	○		
H	nominal fow = 34 cc / rev				○	○	
J	nominal fow = 47 cc / rev					○	○

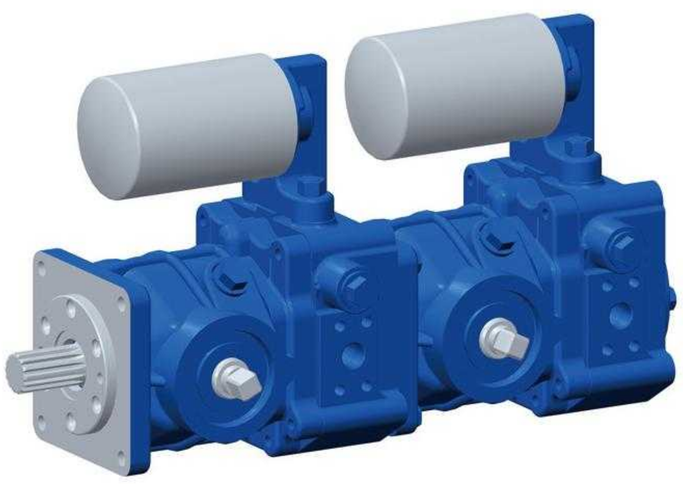
T	Control Orifce Options							055	075	100	130	180	250
MDC	inlet P	drain TA	drain TB	servo A	servo B			055	075	100	130	180	250
00	n/a	1.6 *)	1.6 *)	n/a	n/a			○	○	○	○	○	○
03	0.81	1.6 *)	1.6 *)	n/a	n/a			○	○	○	○	○	○

W	Special Hardware Features	055	075	100	130	180	250
FAC	nested t- bar springs,CP15 +1,5° valve plate	○	○	○		○	
GBA	CP15 +0,5° valve plate	○	○	○	○		
NNN	180cc: CP15 +0,5° valve plate 250cc: CP15 +1,5° valve plate, nested T- bar springs					○	○

YZ	High Pressure Seffing A B	042	055	075	100	130	180	250
26	260 bar	○	○	○	○	○	○	○
32	320 bar	○	○	○	○	○	○	○
35	350 bar	○	○	○	○	○	○	○
38	380 bar	○	○	○	○	○	○	○
40	400 bar	○	○	○	○	○	○	○
42	420 bar	○	○	○	○	○	○	○

K	Charge Pressure Setting	042	055	075	100	130	180	250
20	20 bar	○	○	○	○	○	○	○
22	22 bar	○	○	○	○	○	○	○
24	24 bar	○	○	○	○	○	○	○
26	26 bar	○	○	○	○	○	○	○
28	28 bar	○	○	○	○	○	○	○
30	30 bar	○	○	○	○	○	○	○
32	32 bar		○	○	○	○	○	
34	34 bar		○	○	○	○	○	

HPV Series Swashplate Piston Pump



- Variable axial piston pump of swashplate design which integrates 、boost pump, relief valve and filtration, for closed circuit
- Output flow can be infinitely varied from zero to maximum through manually controlling pump
- Flow direction changes smoothly when the swashplate is moved through the neutral position
- Large variety of controls
- Pressure relief valve is provided on each pressure port to protect hydrostatic transmission from overloading
- High pressure relief valves with integrated boost function
- Integrated boost pump has functions to replenish oil and cool down
- Tandem product is available

Type code

H	PV	2	37	L	02	A	-
01	02	03	04	05	06	07	-

Control devices

		34	37	42	56	
01	Manual control	○	●	●	-	H
	Manual servo control	●	○	○	●	HS
	Electric proportional control	○	○	○	○	E

Product series

02	Variable axial piston pump	PV

Single pump/tandem pump

		34	37	42	56	
03	Single pump	○	●	●	●	
	Tandem pump	●	●	●	-	2

Size

			34	37	42	56
04	Vgmax	mL/r	34	37	42	56

Direction of rotation

05	Viewed on drive shaft	Counterclockwise	L
		Clockwise	R

Filtration

		34	37	42	56	
06	Without filter , external	●	●	○	●	01
	With filter	○	●	●	●	02

Series

07	Series A	A

Technical data

Displacement (mL/r)	Nominal pressure (bar)	Max pressure (bar)	Input speed (r/min)	Max. power (kW)	Weight (kg)
34	210	350	3000	56.1	25
37				62.9	23
42				71.4	23.5
56	250	380		100.8	35

● =Available ○ =On request =Not available

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A2F Bent Axial Piston Pump



- Fixed displacement piston pump for open circuit
- The flow is proportional to the drive speed and the displacementen.

Type code

A2F	55	R	2	P	1
01	02	03	04	05	06

Type

01	Fixed piston pump	A2F

Size

02	Displacement (mL/r)	10	12	23	28	45	55	63	80	107	160	250	

Direction of rotation(viewed on drive shaft)

03	Clockwise	R
	Counter- clockwise	L

Series		10	12	23	28	45	55	63	80	107	160	250	
04	Series	-	-	-	-	●	●	-	-	●	-	-	1
		-	●	-	●	●	●	●	●	●	●	-	2
		-	-	●	●	-	-	-	-	-	-	-	3
		●	●	-	-	-	-	-	-	-	-	-	4
		-	-	-	-	-	-	-	-	-	-	●	5

Drive shaft		10	12	23	28	45	55	63	80	107	160	250	
05	Parallel keyed shaft	●	●	●	●	●	●	●	●	●	●	●	P
		●	●	●	●	●	●	●	●	●	●	●	Z

Rear cover		10	12	23	28	45	55	63	80	107	160	250	
06	Rear cover	●	●	○	●	○	-	-	-	●	-	-	1
		-	-	-	●	-	●	●	●	●	●	●	2
		-	○	●	-	●	●	●	●	●	●	-	3
		●	●	●	●	-	-	-	-	-	-	-	4
		-	-	-	●	-	-	-	-	-	-	-	6

Technical data

Size			10	12	23	28	45	55	63	80	107	160	250
Max. Speed (r/min)	Open circuit Inlet pressure (bar)	0.9	4700	3750	3750	2800	2850	2360	2550	2120	1900	1650	1400
		1	5000	4000	4000	3000	3000	2500	2700	2240	2000	1750	1500
		1.5	6000	4900	4900	3600	3550	3000	3300	2750	2450	2100	1850
Working pressure (bar)	Nominal		300										
	Max.		350										
Weight (Kg)			5	5	12	12	23	23	33	33	44	63	88

● =Available ○ =On request - =Not available

A7V Bent Axial Piston Pump



- Variable displacement pump of bent-axis design for applications in an open circuit
- The output flow is proportional to the drive speed and pump displacement and can be infinitely varied from maximum and zero(qvmax to qvmin=0)
- Wide selection of control devices

Type code

A7V	160	LV	2.2	L	Z	F	O	O
01	02	03	04	05	06	07	08	09

Axial piston pump

01	Bent- axis design, variable displacement	A7V

Size

02	≈Vgmax (mL/r)	58	78	80	107	117	160	250	

Control devices

03	Power control	○	○	●	●	●	●	●	LV
	Pressure control	○	●	○	○	○	○	○	DR
	ISO 4400 Electric proportional control (24VDC) Standard plug: ISO 4400	●	●	●	●	●	●	●	EL
	Hydraulic control, pressure related	●	●	●	●	-	-	-	HD
	Manual control (with hand wheel)	○	●	●	○	●	●	○	MA

Series

04	Series 2.0 (Vgmin≠0)	-	-	●	●	-	●	-	2.0
	Series 2.0 (Vgmin≠0)	●	●	-	-	●	-	-	
	Series 3.0 (Vgmin≠0)	-	-	-	-	-	●	-	3.0
	Series 5.1 (Vgmin≠0)	-	-	-	-	-	-	●	5.1

Direction of rotation(Viewed on drive shaft)

05	Clockwise	R
	Counter-clockwise	L

Drive shaft

06	Parallel keyed shaft GB 1096	P
	Splined shaft DIN5480	Z
	Splined shaft GB3478.1	S

Working ports

07	Pressure port: SAE J518 flange,at side Suction port: SAE J518 flange,at side	●	●	●	●	●	●	●	F
	Pressure port: Metric thread, at side Suction port: SAE J518 flange, at side	●	●	●	●	●	●	-	G

Stroke limiter

08	None	O
	Stroke limiter Mechanically adjustable (for LV,DR)	M
	Stroke limiter Mechanically adjustable (for LV)	H

Auxiliary components

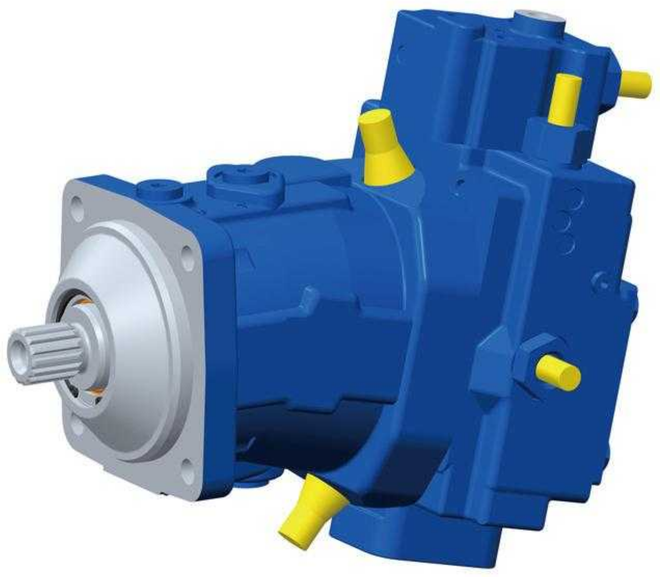
09	None	O
	With remote pressure cut-off (for LV,EL,HD)	D
	Remote pressure control	F

Technical data

Displacement (mL/r)	Nominal pressure (bar)	Max. pressure (bar)	Nominal speed (r/min)	Max. speed (r/min)	Max. power (kW)	Weight (kg)
58	300	350	3000	3350	115	44
78			2700	3000	137	53
80			2240	2750	128	44
107			2000	2450	153	53
117			2360	2650	181	76
160			1750	2100	196	76
250			1500	1850	270	105

● =Available ○ =On request - =Not available

A7VO Bent Axial Piston Pump



- Variable displacement pump with axial tapered piston rotary unit of bent-axis design, for hydrostatic transmission in open circuit.
- For mobile machinery and industrial applications
- The output flow is proportional to the drive speed and pump displacement and can be infinitely varied from maximum and zero
- Wide selection of control devices
- Robust bearing system, long service life

Type code

A7V	O	55	LRDS	/	63	L	-	N	Z	B	01
01	02	03	04		05	06		07	08	09	10

Axial piston pump

01	Bent- axis design, variable displacement pump	A7V

Operating mode

02	Pump, open circuit	O

Size

03	Vgmax (mL/r)	55	

Control devices

04	Power controller without power override	○	LR
	With pressure cut-off	○	LRD
	With pressure cut-off and load sensing	●	LRDS
	Pressure controller	○	DR
	With load sensing	○	DRS

Series

05	Series 6, index 3	●	63

Direction of rotation

06	Viewed on drive shaft (counter-clockwise)	●	L

Sealing material

07	NBR,FKM	●	N

Drive shaft

09	Splined shaft DIN 5480	●	Z

Mounting flange

10	ISO 3019-2; 4-hole	●	B

Working Ports (metric thread)

11	SAE flange ports A and S, at rear	●	01

Technical data

Displacement (mL/r)	Nominal pressure (bar)	Max. pressure (bar)	Nominal speed (r/min)	Max. speed (r/min)	Max. power (kW)	Weight (kg)
55	380	420	2300	2500	80	38

● = Available ○ = On request - = Not available

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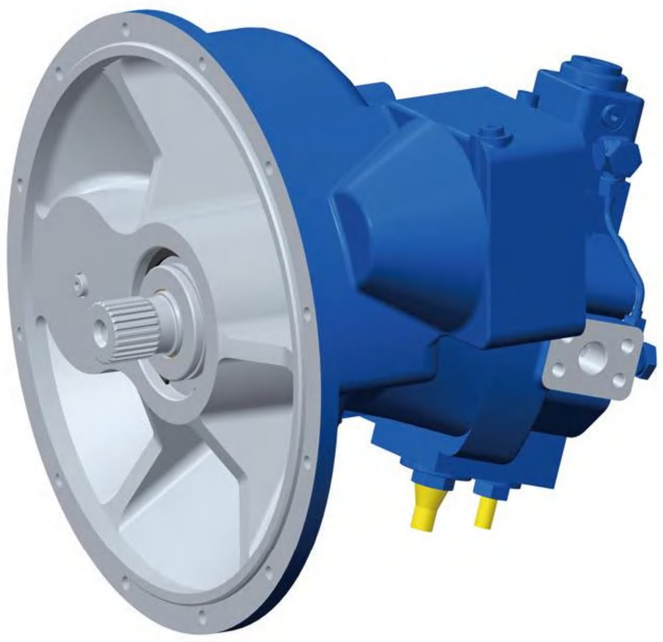
A8V Bent Axial Piston Pump



- Variable displacement double pump of bent-axis design for open circuit hydrostatic transmission
- Double pump of parallel construction design
- The swivel angle is from 25°to 7°
- Two pumps share one common suction port
- The pump is suitable for direct mounting on the flywheel housing of diesel engine
- Power control can be set as summation power control or individual power control
- Power take-off for mounting axial piston and gear pumps

Type code

A8V	107	SR	1.2	R	1	0	1	F	1	-	-
01	02	03	04	05	06	07	08	09	10	-	-

Axial piston pump

01	Variable displacement double pump (parallel construction) , bent-axis design	A8V

Size

02	Single pump displacement Vgmax (mL/r)	64	80	107	

Control devices

03	Summation power control	○	○	●	SR

Design

04	Without power take-off	○	○	●	1
	With power take-off , Auxiliary pump counter-clockwise rotation	○	○	-	1.1
	With power take -off, Auxiliary pump clockwise rotation ,	-	-	●	1.2
	With power take-off , Auxiliary pump clockwise rotation, Design optimized	-	-	●	1.21

Direction of rotation

05	Viewed on drive shaft（Clockwise）	R

Series

06	Series 1	1

Gear ratio(input/rotary groups)

07	Ratio i=1	0

Suction port（Metric thread）

08	SAE J518 Flange	1

Pressure Ports

09	SAE J518 Flange	F

Stroke limiter		64	80	107	
10	Fixed	○	○	●	1
	Hydraulically adjusted	○	○	●	M
	Mechanically adjusted	○	○	●	H

Technical data

Displacement (mL/r)	Nominal pressure (bar)	Max.pressure (bar)	Nominal speed (r/min)	Max. speed (r/min)	Max. power (kW)	Weight (kg)
64	320	350	2150	2450	60	95
80			2150	2450	90	120
107			2000	2150	170	155

● =Available ○ =On request - =Not available

A8VO Bent Axial Piston Pump



- Variable displacement double pump, parallel construction with two axial tapered piston rotary groups of bent-axis design, for open circuit
- Displacement can be infinitely varied from maximum to zero
- Pump is suitable for direct mounting on flywheel housing of engine
- Integrated auxiliary pump and both circuits share one common suction port
- Individual power control
- Available for different control and regulating functions Integrated auxiliary pump with pressure relief valve, additional pressure reducing valve available .
- Power take-off for mounting axial piston pump and gear pump

Type code

A8V	O	140	LA0KH2	/	63	R	1	-	N	Z	G	05	F	05	1
01	02	03	04		05	06	07		08	09	10	11	12	13	14

Axial piston pump

01	Variable displacement, double pump (parallel construction) , bent-axis design	A8V

Operating mode

02	Open circuit	O

Size

03	Single pump displacement Vgmax	107	140	

Control devices

04	Individual power control, without power override			
	Individual power control	○	○	LA0H0
	With hydraulic stroke limiter, positive control and external pilot pressure supply	●	●	LA0H2
	With load sensing	○	○	LA0S
	With hydraulic power coupling	●	●	LA0K
	With load sensing	●	●	LA0KS
	With hydraulic stroke limiter, negative control	○	○	**LA0KH1**
	With hydraulic stroke limiter, positive control and external pilot	●	●	LA0KH2
	With hydraulic stroke limiter, negative control and external pilot pressure supply	○	○	LA0KH3
	Individual power control with power override by pilot pressure			
	With hydraulic stroke limiter, positive control and external pilot pressure supply	○	○	LA1H2
	With load sensing	●	●	LA1S
	With hydraulic power coupling	●	●	LA1K
	With load sensing	●	●	LA1KS
	With hydraulic stroke limiter, negative control	●	●	LA1KH1
	With hydraulic stroke limiter, positive control and external pilot pressure supply	●	●	LA1KH2
	With hydraulic stroke limiter, negative control and external pilot pressure supply	●	●	LA1KH3
	Electric control with proportional solenoid (positive control) U=24V	○	○	EP2

Series

05	Series 6, Index 3	●	●	63
		—	—	61

Direction of rotation

06	Viewed on drive shaft, clockwise	●	●	R

Gear ratio($n_{input}/n_{rotary\ groups}$)

07	Ratio=1			1

Sealing material

08	NBR, FKM	●	●	N
	FKM	○	○	V

Drive shaft

09	Splined shaft DIN 5480	●	●	Z

Mounting flange

10	To fit flywheel housing of internal combustion engine (conforming to SAE J617)	●	●	G
		—	—	N

Working ports (metric thread)

11	SAE J518 flange ports A1 and A2 at side, opposite SAE J518 flange ports S at rear	●	●	05

Auxiliary pump

12	Without integrated auxiliary pump	Without power take-off	○	○	K00
		With power take-off	○	○	K..
	With integrated auxiliary pump	Without power take-off	○	○	F00
		With power take-off	●	●	F..

Power take-off(1)

13	Flange SAE J744	**Hub for splined shaft(2)**			
	82-2	5/8in 9T 16/32 DP	○	○	...01
	101-2	7/8in 13T 16/32 DP	●	○	...02
		1in 15T 16/32 DP	●	●	...04
	100-2+4	15Z×2m×30×9g GB3478.1-83	○	○	...03
		15Z×1.5m×30×9g GB3478.1-83	●	●	...05
	127-2	15Z×2m×30×9g GB3478.1-83	○	●	...06
		1 1/4 in 14T 12/24 DP	●	●	...07
		1 3/4 in 13T 8/16 DP	○	○	...27
	152-4	1 1/4 in 14T 12/24 DP	○	○	...86
		1 3/4 in 13T 8/16 DP	○	●	...17

Valves

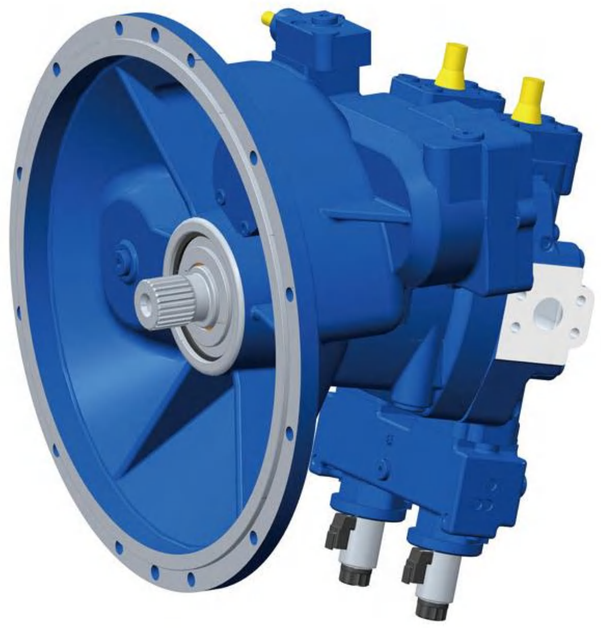
		K...	F...	
14	Without valves (only for versions without auxiliary pump, K...)	○	-	0
	With pressure relief valve (only for versions with auxiliary pump, K...)	●	●	1
	With pressure relief and pressure reducing valve (only for versions with auxiliary pump, F..) U=24V	●	●	4

Technical data

Displacement (mL/r)	Nominal pressure (bar)	Max.pressure (bar)	Nominal speed (r/min)	Max. speed (r/min)	Max. power (kW)	Weight (kg)
107	350	400	2000	2150	268	146
140			2000	2100	294	160

● =Available ○ =On request - =Not available

A8VO(72) Bent Axial Piston Pump



- Variable displacement double pump , parallel construction with two axial tapered piston rotary groups of bent-axis design , for open circuit.
- Displacement can be infinitely varied from maximum to zero
- Pump is suitable for direct mounting on flywheel housing of engine
- Integrated auxiliary pump and both circuits share one common suction port
- Individual power control
- Available for different control and regulating functions.
- Integrated auxiliary pump with pressure relief valve, additional pressure reducing valve available
- Power take-off for mounting axial piston pump and gear pump

Type code

A8V	O	225	EP2	/	72	R	1	-	N	Z	G	05	F	02	1
01	02	03	04		05	06	07		08	09	10	11	12	13	14

Axial piston pump

01	Variable displacement, double pump (parallel construction) , bent-axis design	A8V

Operating mode

02	Open circuit	O

Size

03	Single pump displacement Vgmax	mL/r	225

Control devices

	Individual power control, without power override		
04	Individual power control	-	LA0H0
	With hydraulic stroke limiter, positive control and external pilot pressure supply	-	LA0H2
	With load sensing	-	LA0S
	With hydraulic power coupling	-	LA0K
	With load sensing	-	LA0KS
	With hydraulic stroke limiter, negative control	-	LA0KH1
	With hydraulic stroke limiter, positive control and external pilot pressure supply	-	LA0KH2
	With hydraulic stroke limiter, negative control and external pilot pressure supply	-	LA0KH3
	Individual power control with power override by pilot pressure		
	With hydraulic stroke limiter, positive control and external pilot pressure supply	-	LA1H2
	With load sensing	-	LA1S
	With hydraulic power coupling	-	LA1K
	With load sensing	●	LA1KS
	With hydraulic stroke limiter, negative control	●	LA1KH1
	With hydraulic stroke limiter, positive control and external pilot pressure supply	-	LA1KH2
	With hydraulic stroke limiter, negative control and external pilot pressure supply	-	LA1KH3
	Electric control with proportional solenoid (positive control) U=24V	●	EP2

Series

05	Series 7, Index 2	72

Direction of rotation

06	Viewed on drive shaft, clockwise	R

Gear ratio($n_{input}/n_{rotary\ groups}$)

07	i=1	1

Sealing material

08	NBR, shaft seal ring in FKM	N

Drive shaft

09	Splined shaft DIN5480	Z

Mounting flange

10	To fit flywheel housing of internal combustion engine (conforming to SAE J617)	●	G
		-	N

Working ports(metric thread)

11	SAE flange ports A1 and A2 at side, opposite SAE flange ports S at rear	05

Auxiliary pump

12	Without integrated auxiliary pump	Without power take-off	-	K00
		With power take-off	-	K...
	With integrated auxiliary pump	Without power take-off	-	F00
		With power take-off	●	F...

Power take-off(1)

13	Flange SAE J744	Hub for splined shaft(2)		
	82-2 (A)	5/8in 9T 16/32 DP (A)	-	...01
	101-2(B)	7/8in 13T 16/32 DP (B)	●	...02
		1in 15T 16/32 DP (B)	-	...04
	100-2+4(C)	15Z×2m×30×9g GB3478.1-83 (C)	-	...03
		15Z×1.5m×30×9g GB3478.1-83(C)	-	...05
	127-2(D)	15Z×2m×30×9g GB3478.1-83 (C)	-	...06
		1 1/4 in 14T 12/24 DP (D)	-	...07
		1 3/4 in 13T 8/16 DP (E)	-	...27
	152-4(E)	1 1/4 in 14T 12/24 DP (E)	-	...86
		1 3/4 in 13T 8/16 DP (E)	●	...17

Valves

14	Without valves (only for versions without auxiliary pump, K...)	-	0
	With pressure relief valve (only for versions with auxiliary pump, F...)	●	1
	With pressure relief and pressure reducing valve (only for versions with auxiliary pump, F...) U=24V4	●	4

Technical data

Displacement (mL/r)	Nominal pressure (bar)	Max. pressure (bar)	Nominal speed (r/min)	Max. speed (r/min)	Max. power (kW)	Weight (kg)
2×224.6	380	420	2050	2300	384	194

(1) Other PTOs on request

(2) Hub for splined shaft conforming to ANSI B92.1a-1976
(splined shaft conforming SAE J744)

● =Available ○ =On request - =Not available

A2FE Bent axial piston motor



- Fixed displacement motor with axial tapered piston unit of bent axis design, for hydrostatic transmission in open or closed circuit
- For use in mobile machinery and industrial applications
- The output speed is dependent on the pump's flow and the motor's displacement

Type Code

A2F	E	125	/	61	W	-	V	Z	L	181	F		-	W1XB01
01	02	03		04	05		06	07	08	09	10	11		12

Axial piston pump

01	Bent axial motor with fixed displacement	A2F

Mounting method

02	Plug-in	E

Size

03	Displacement(mL/r)	45	56	63	80	90	107	125	160	180	

Series index

04	Series 6 ,Index 1	61

Direction of rotation

05	Viewed on drive shaft ,bidirectional	W

Sealing material

06	FKM	V

Drive shaft		45	56	63	80	90	107	125	160	180	
07	Splined shaft	○	●	●	●	●	●	●	●	●	A
	DIN 5480	●	●	●	●	●	●	●	●	●	Z

Mounting flange

08	ISO3019-2 2-hole	L

Working ports				45	56	63	80	90	107	125	160	180	
09	SAE flange ports and A and B, at the rear	01	0	○	○	○	○	○	●	○	○	○	010
	SAE flange ports and A and B, at the opposite side	02	0	-	●	●	●	●	●	●	○	○	020
			7	-	○	●	●	●	●	○	○	○	027

	SAE flange ports and A and B, at the same side	10	0	●	●	●	●	○	●	●	○	○	100
	working port with level 1 relief valve for mounting counterbalance valve	17	1	-	-	-	-	-	●	●	-	-	171
		18	1	-	-	-	●	○	●	●	●	●	181
	working port with integrated relief valve	19	0	-	●	-	-	-	-	-	-	-	190

valve

Without valve	0
With relief valve	1
With flush valve	7

Speed sensor		45	56	63	80	90	107	125	160	180	
10	Without speed sensor (without code)	●	●	●	●	●	●	●	●	●	
	With port for speed sensor	●	●	○	○	○	○	○	●	●	F
	With speed sensor	●	●	○	○	○	○	○	●	●	H

Special version		
11	Standard version (without code)	
	Special version	-S
	Special version for swing drive	J

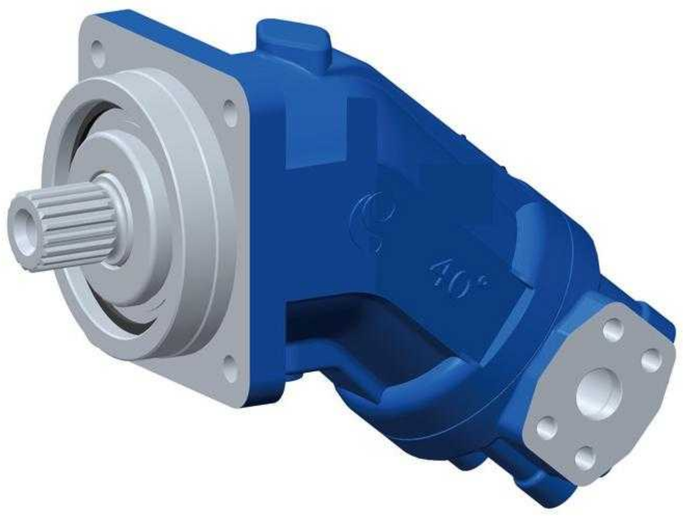
Counterbalance valve		
12	Without counterbalance valve (without code)	
	With counterbalance valve (Pls contact us for more details)	W1XB01

Technical data

Displacement (mL/r)	Nominal pressure (bar)	Max. pressure (bar)	Nominal speed (r/min)	Max. speed (r/min)	Output torque (ΔP=350bar)(N·m)
45	400	450	5000	5500	290
56			4500	5000	357
63					401
80			4000	4500	512
90					573
107			3600	4000	679
125					796
160			3300	3600	1021
180					1146

● =Available ○ =On request - =Not available

A2FM Bent axial piston motor



- Fixed displacement motor with axial tapered piston unit of bent axis design, for hydrostatic transmission in open or closed circuit .
- For use in mobile machinery and industrial applications
- For use in mobile machinery and industrial applications

Type code

A2F	M	107	/	61	W	-	V	Z	B	020	F	
01	02	03		04	05		06	07	08	09	10	11

Axial piston motor

01	Bent axial motor with fixed displacement	**A**2F

Operating mode

02	Motor	M

Size

03	Displacement(mL/r)	45	56	63	80	90	107	125	160	180	

Series

04	Series 6, Index 1	61

Direction of rotation

05	Viewed on drive shaft ,bidirectional	W

Sealing material

06	FKM	V

Drive shaft

07	Splined shaft	○	●	●	●	●	●	●	○	○	A
	DIN 5480	○	●	●	●	●	●	●	○	○	Z

Mounting flange

08	ISO3019-2 4-hole	B

Working port

				45	56	63	80	90	107	125	160	180	
09	SAE flange ports A and B at rear	01	0	-	-	-	-	-	●	○	-	-	010
	SAE flange ports A and B at the opposite side	02	0	-	●	●	●	●	●	●	-	-	020
			7	-	○	●	●	●	●	○	-	-	027

	SAE flange ports and A and B, at the same side	10	0	○	●	●	●	○	●	●	-	-	100
	working port with level 1 relief valve for mounting counterbalance valve	17	1	-	-	-	-	-	●	●	-	-	171
		18	1	-	-	-	●	○	●	●	○	○	181
	working port with integrated relief valve	19	0	-	●	-	-	-	-	-	-	-	190

valve

Without valve	0
With relief valve	1
With flush valve	7

Speed sensor		45	56	63	80	90	107	125	160	180	
10	Without speed sensor (without code)	○	●	●	●	●	●	●	○	○	
	With port for speed sensor	○	●	●	●	●	●	●	○	○	F
	With speed sensor	○	●	●	●	●	●	●	○	○	H

Special version

11	Standard version (without code)	
	Special version	-S
	Special version for swing drive	J

Displacement (mL/r)	Nominal pressure (bar)	Max. pressure (bar)	Nominal speed (r/min)	Max. speed (r/min)	Output torque (ΔP=350bar)(N·m)
45	400	450	5000	5500	290
56			4500	5000	357
63					401
80			4000	4500	512
90					573
107			3600	4000	679
125					796
160			3300	3600	1021
180					1146

● =Available ○ =On request - =Not available

A6VE Bent axial piston motor



- Variable displacement motor with axial tapered piston unit of bent axis design, for hydrostatic transmission in open or closed circuit .
- Simple to plug into the mechanical gearbox, extremely compact and especially for mobile machinery
- Wide control range enables the variable displacement motor to meet the requirements for high speed and high torque
- Displacement can be infinitely varied from Vgmax to Vgmin=0
- The output torque increases with the pressure difference between the high and low pressure sides and increasing displacement.
- Large variety of controls and greater control range of hydrostatic transmission

Type code

A6V	E	80	EP2	D	/	63	W	-	V	Z	B	020	H	B	-	W1XA01	-	0400
01	02	03	04	05		06	07		08	09	10	11	12	13		15		16

Axial piston motor

01	Bent axial motor with variable displacement for open or closed circuit	A6V

Operating mode

02	Plug-in motor	E

Size

03	Maximum displacement (mL/r)	80	107	115	160	200	

Control devices

04	Hydraulic two-point control (with differential cylinder)	●	●	●	●	●	HZ1
	Hydraulic two-point control (with directional valve)	●	—	—	●	—	HZ3
	Hydraulic proportional control Δp=10bar	●	●	●	●	●	HD1
	Electric two-point control , U=24V DC, plug :DEUTSCH DT04-2P	●	●	●	●	●	EZ2
	Electric proportional solenoid control , U=24V DC, plug :DEUTSCH DT04-2P				●	●	EP2
	Automatic control ,high pressure related Δp=10bar	●	●	●	●	●	HA1
	Automatic control ,high pressure related Δp=100bar	●	●	●	●	●	HA2

Pressure control/Overriding control

05	Without pressure control ,only for HD,EP,EZ (without code)	●	●	●	●	●	
	With pressure control ,only for HD,EP,EZ	●	●	●	●	●	D
	Without overriding control , only for HA (without code)	●	●	●	●	●	
	With overriding control ,only for HA	●	●	●	●	●	T

Series

06	Series 6,index 3	63

Direction of rotation

07	Viewed on drive shaft ,bidirectional	W

Sealing material

08	FKM	V

Drive shaft

		80	107	115	160	200	
09	Splined shaft DIN5480	●	●	●	●	●	A
		●	●	●	●	●	Z

Mounting flange

10	IS0 3019-2 2-hole	L

Working port

					80	107	115	160	200	
11	SAE J518 flange ports A and B ,rear, fastening thread, metric	01	0	Without valve	●	●	●	●	○	010
	SAE J518 flange ports A and B, opposite side, fastening thread, metric	02	0	Without valve	○	●	●	●	●	020
			7	With flush valve and boost press-ure valve	○	●	●	●	●	027
	SAE J518 flange ports A and B, working ports with brake valve ,same side	22	1	Inner pipe	—	—	—	○	—	221
			2	Outer line	—	—	—	●	—	222
	SAE J518 flange ports A and B ,working ports with relief valve, for mounting counterbalance valve.	37	0	Without valve	○	●	●	—	—	370
	SAE J518 flange ports A and B, working ports with relief valve, for mounting counterbalance valve.	38	0	Without valve	●	—	—	●	—	380

Speed sensor

12	Without speed sensor (without code)	
	With port for speed sensor	F
	With speed sensor	H

Start of control

13	At Vgmin（standard HA）	A
	At Vgmax（standard HD,HZ,EP,EZ）	B

Counterbalance valve

14	Without counterbalance valve（without code）	
	With counterbalance valve （Pls contact us for more details ）	W1XA01

Vgmin setting

15	For example :Vgmin=40(mL/r)	0400

Technical data

Displacement (mL/r)		Nominalp ressure (bar)	Max. pressure (bar)	Max. speed (r/min)			Max. torque (ΔP=400bar) (N.m)	Weight (Kg)
Vgmax	Vgmin			Vgmax	0.63*Vgmax	Vgmin		
80	0	400	450	3900	6150	7350	509	34

Technical data

Displacement (mL/r)		Nominalp pressure (bar)	Max. pressure (bar)	Max. speed (r/min)			Max. torque (ΔP=400bar) (N.m)	Weight (Kg)
Vgmax	Vgmin			Vgmax	0.63*Vgmax	Vgmin		
80	0	400	450	3900	6150	7350	509	34
107				3550	5600	6300	681	53
115				3550	6150	7350	828	46
160				3100	4900	5500	1019	64
200				2900	4600	5100	1273	80

● =Available ○ =On request - =Not available

A6VM Bent axial piston motor



- Variable displacement motor with axial tapered piston unit of bent axis design, for hydrostatic transmission in open or closed circuit .
- For use in mobile machinery and industrial applications.
- Wide control range enables the variable motor to meet the requirements for high speed and high torque.
- Displacement can be infinitely varied from Vgmax to Vgmin=0
- The output torque increases with the pressure difference between the high and low pressure sides and increasing displacement
- Large variety of controls and greater control range of hydrostatic transmission
- Compact, solid, high power density and good starting-up characteristics.

Type code

A6V	M	80	EP2	D	/	63	W	-	V	Z	B	020	H	B	-	W1XA01	-	0400
01	02	03	04	05		06	07		08	09	10	11	12	13		15		16

Axial piston motor

01	Bent axial motor with variable displacement for open or closed circuit	A6V

Operating mode

02	Motor	M

03		80	107	115	160	200	250	

Control devices

04	Hydraulic two-point control	●	●	●	●	●	○	HZ1
	Hydraulic proportional control ΔP=10bar	●	●	●	●	●	○	HD1
	Electric two-point control , U=24V DC, plug :DEUTSCH DT04-2P	●	●	●	●	●	○	EZ2
	Electric proportional solenoid control , U=24V DC, plug :DEUTSCH DT04-2P	●	●	●	●	●	○	EP2
	Automatic control ,high pressure related ΔP =10bar	●	●	●	●	●	○	HA1
	Automatic control ,high pressure related ΔP =100bar	●	●	●	●	●	○	HA2

Pressure control/Overriding control

05	Without pressure control ,only for HD,EP,EZ (without code)	●	●	●	●	●	○	
	With pressure control ,only for HD,EP,EZ	●	●	●	●	●	○	D
	Without overriding control , only for HA (without code)	●	●	●	●	●	○	
	With overriding control ,only for HA	●	●	●	●	●	○	T

Series index

06	Series 6,index 3	63

Direction of rotation

07	Viewed on drive shaft ,bidirectional	W

Sealing material

08		FKM	V

Drive shaft

		80	107	115	160	200	250	
09	Splined shaft DIN5480	●	●	●	●	●	○	A
		○	●	●	●	●	○	Z

Mounting flange

10	IS0 3019-2 4-hole	B

Working port

					80	107	115	160	200	250	
11	SAE J518 flange ports A and B ,rear, fastening thread, metric	01	0	Without valve	●	●	●	●	○	○	010
	SAE J518 flange ports A and B, opposite side, fastening thread, metric	02	0	Without valve	○	●	●	●	●	○	
			7	With flush valve and boost pressure valve	○	●	●	●	●	○	027
	SAE J518 flange ports A and B ,working ports with relief valve for mounting counterbalance valve.	37	0	Without valve	○	●	●	●	—	—	370
	SAE J518 flange ports A and B, working ports with relief valve for mounting counterbalance valve.	38	0	Without valve	●	—	—	●	○	○	380

Speed sensor

12	Without speed sensor (without code)	
	With port for speed sensor	F
	With speed sensor	H

Start of control

13	At Vgmin（standard HA）	A
	At Vgmax（standard HD,HZ,EP,EZ）	B

Counterbalance valve

14	Without counterbalance valve（without code）	
	With counterbalance valve （Pls contact us for more details ）	W1XA01

Vgmin setting

15	For example :Vgmin=40(mL/r)	0400

Technical data

Displacement (mL/r)		Nominal pressure (bar)	Max. Pressure (bar)	Max. speed (r/min)			Max. torque (ΔP=400bar) (N.m)	Weight (Kg)
Vgmax	Vgmin			Vgmax	0.63*Vgmax	Vgmin		
80	0	400	450	3900	6150	7350	509	34
107				3550	5600	6300	681	53
115				3550	6150	7350	828	46
160				3100	4900	5500	1019	64
200				2900	4600	5100	1273	80
250	0	350	400	2700	3600	3600	1391 (ΔP=350bar)	100

● =Available ○ =On request - =Not available

HST Hydrostatic transmission device



- Variable axial piston pump which integrates boost pump, relief valve and filtration, for closed circuit
- Motor output speed can be infinitely changed from zero to maximum through manually controlling pump
- Flow direction changes smoothly when the swashplate is moved through the neutral position
- Large variety of controls
- Pressure relief valve is provided on each pressure port to protect hydrostatic transmission from overloading
- High pressure relief valves with integrated boost function
- Integrated boost pump has functions to replenish oil and cool down
- Compact, small dimensions, light weight, and low noise

Type code

HST	H	PVMF	28	L	02	A
01	02	03	04	05	06	07

Product series

01	HST series	HST

Control devices		18	28	37	42	45	48	56	60	
02	Manual control	●	●	●	●	●	●	-	-	H
	Manual servo control	-	-	-	-	-	○	●	●	HS
	Electric proportional control	-	-	-	-	-	○	●	○	E

Product series

03	Assembly of variable pump and fixed motor	PVMF

Pump/motor size

04	Vgmax mL/r	18	28	37	42	45	48	56	60

Direction of rotation

05	Viewed on drive shaft	Counterclockwise	L
		Clockwise	R

Filtration		18	28	37	42	45	48	56	60	
06	Without filter, external	○	●	○	○	○	○	○	●	01
	With filter	●	●	●	●	●	●	●	○	02

Series

07	Series A	A

Technical data

Pump displacement (mL/r)	Motor displacement (mL/r)	Nominal pressure (bar)	Max. pressure (bar)	Input speed (r/min)	Output speed (r/min)	Max. power (kW)	Weight (kg)
18	18	210	350	3000	0~3000	30.6	17
28	28					47.6	20
37	37					62.9	24
42	42					71.4	27
45	45					76.5	28
48	48					79.2	38
56	56					92.4	38
60	60					99	38.5

● =Available ○ =On request - =Not available

DHST Hydrostatic transmission device



- Variable axial piston pump which integrates boost pump, relief valve and filtration, for closed circuit.
- Motor output speed can be infinitely changed from zero to maximum through manually controlling pump
- Flow direction changes smoothly when the swashplate is moved through the neutral position
- Adaptively variable displacement makes a stronger drive power and higher system efficiency
- Pressure relief valve is provided on each pressure port to protect hydrostatic transmission from overloading
- High pressure relief valves with integrated boost function
- Integrated boost pump has functions to replenish oil and cool down
- Compact, small dimensions, light weight and low noise.

Type code

DHST	42	V	37	/	52	-	A
01	02	03	04		05		06

Product series

01	Double Hydrostatic Transmission Unit	DHST

Size

02	Vgmax	mL/r	42	45

Pump size

03	Variable pump	V

Motor size			42	45
04	Minimum displacement	mL/r	37	45
05	Maximum displacement	mL/r	52	55

Series

06	Series A	A

Technical data

Pump displacemen (mL/r)	Motor displacemen (mL/r)	Nominal pressure (bar)	Max. pressure (bar)	Input speed (r/min)	Output speed (r/min)	Max. power (kW)	Weight (kg)
42	37/52	210	350	3000	0~2450/3400	71.4	30.9
45	45/55			3000	0~2450/3000	74.3	31.5

● =Available ○ =On request - =Not available

PVD Series Piston Pump



- Compact design

Compact volume to save installation space in the machine frame.

- High Efficiency

Axial piston structure can maintain high efficiency at the high pressure.

- Constant power control

Including feedback from option gear pump to keep the pump drive power under the engine power curve.

- Small Flow Difference

Flow difference between each port is minimum to 1%.

- Optional Gear Pump

Single or double gear pumps can be supplied together.

- Easy installation

Interchangeable with the OEM PVD pumps for the popular excavators in the market .

Model	Displacement (mL/r)			Displacement (mL/r)			Rated speed (rpm)
	Main pump	Gear pump	Pilot pump	Main pump	Gear pump	Pilot pump	
PVD-00B-14	7+7	6	2.7	210	180	39	2200
PVD-00B-15	7.5+7.5	6	2.7	210	180	39	2200
PVD-00B-16	8+8	6	2.7	210	180	39	2200
PVD-0B-16	8+8	/	2.7	210	/	39	2300
PVD-0B-18	9+9	6.4	2.7	210	180	39	2300
PVD-0B-24	12+12	6.4	2.7	210	206	39	2300
PVD-1B-32	16+16	10.5	4.5	210	206	39	2300
PVD-1B-34	16+16	10.5	4.5	210	206	39	2300

WEITAI

K3V/K5V/K7V Axial Piston Pump



- Swash plate variable axial piston pump with through drive structure.
- High Efficiency and Large Self-Priming Capability
- High durability and reliability.
- Various control options: positive flow control, negative flow control, constant power control, Cut-off pressure control, load-sensing control.
- Interchangeable with original K3V/K5V/K7V main pumps of popular excavators.

Model		K3VL63	K3VL80	K3VL112	K3VL140	K3VL180
Displacement	Main pump	63 mL/r	80 mL/r	112 mL/r	140mL/r	180mL/r
Rated pressure	Main pump	320 bar	350 bar	350 bar	350 bar	343 bar
Rated speed		2200 rpm	2200 rpm	2200 rpm	2200 rpm	1950 rpm
Max. flow	Main pump	138 LPM	185 LPM	250 LPM	320 LPM	351 LPM
Input Teeth		14	14 or 9	12 or 14	14 or 17	17
Application		6-7 Ton	8-10 Ton	10-12 Ton	13-15 Ton	13-15 Ton

K3V series main pumps



Model		K3V63DT(P)	K5V80DT(P)	K3V112DT(P)	K3V140DT(P)	K3V180DT(P/H)
Displacement	Main pump	63x2 mL/r	80x2 mL/r	112x2 mL/r	140x2 mL/r	180x2mL/r
	Gear pump	15 mL/r	15 mL/r	15 mL/r	15 mL/r	15 mL/r
Rated pressure	Main pump	343 bar	350 bar	350 bar	350 bar	343 bar
	Gear pump	39 bar	39 bar	39 bar	39 bar	39 bar
Rated speed		2200 rpm	2050 rpm	2000 rpm	2000 rpm	1950 rpm
Max. flow	Main pump	138.6x2 LPM	164x2 LPM	218x2 LPM	280x2 LPM	351x2 LPM
	Gear pump	33 LPM	33.8 LPM	30 LPM	30 LPM	29.5 LPM
Input Teeth		14	12	14	17	17
Application		13-15 Ton	15-18 Ton	20-25 Ton	27-35 Ton	39-45 Ton

K5V series main pumps



Model		K5V140DT(P)	K5V160DT(H)	K5V200DT(P/H)	K5V212DPH	K5V230DPH
Displacement	Main pump	140x2 mL/r	160x2mL/r	200x2mL/r	212x2 mL/r	230x2 mL/r
	Gear pump	15 mL/r	15 mL/r	15 mL/r	15 mL/r	15 mL/r
Rated pressure	Main pump	343 bar	343 bar	343 bar	343 bar	343 bar
	Gear pump	39 bar	39 bar	39 bar	39 bar	39 bar
Rated speed		2000 rpm	2000 rpm	1800 rpm	1800 rpm	1800 rpm
Max. flow	Main pump	280x2LPM	320x2 LPM	360x2LPM	380x2LPM	414x2 LPM
	Gear pump	30LPM	30LPM	30LPM	30LPM	30LPM
Input Teeth		17	17	17	17	17
Application		27-35 Ton	35-45 Ton	45-50 Ton	50-55 Ton	55-65 Ton

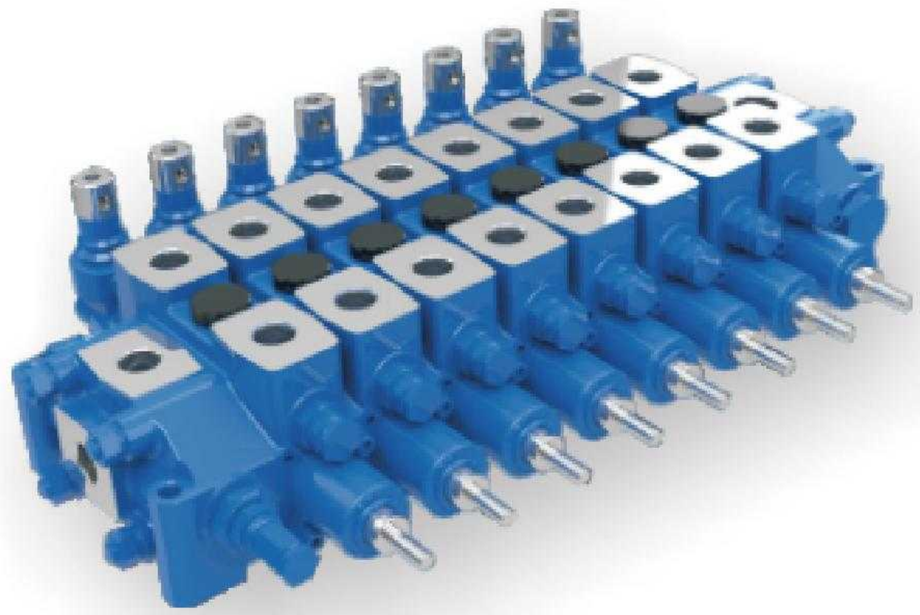
K7V series main pumps



Model		K7V63DTP	K7V125DTP	K7V140DTP	K7V180DTP	K7V240DPH
Displacement	Main pump	63x2 mL/r	125x2mL/r	140x2 mL/r	180x2mL/r	240x2 mL/r
	Gear pump	15 mL/r	15 mL/r	15 mL/r	15 mL/r	15 mL/r
Rated pressure	Main pump	350 bar	350 bar	350 bar	343 bar	343 bar
	Gear pump	39 bar	39 bar	39 bar	39 bar	39 bar
Rated speed		2200 rpm	2000 rpm	2000 rpm	1950 rpm	1800 rpm
Max. flow	Main pump	138.6x2 LPM	250x2 LPM	280x2 LPM	351x2 LPM	446x2 LPM
	Gear pump	33 LPM	30 LPM	30 LPM	29.5 LPM	30 LPM
Input Teeth		17	14 or 17	17	17 or 15	17
Application		10-1 Ton	20-25 Ton	25-30 Ton	35-45 Ton	55-65 Ton

WEITAI

MDV Series Multi Directional Vavle



The valve is of piece type structure, small in volume,beautiful in appearance, fine universality, small internal leakage, no outleakage, reliable in operation, and fine steadyand transient characteristics for safety valve, and has severalspool valve functions. The valve is mainly used inconstruction machinery, lifting and transportation machinery, petroleum and mining machinery and other machinery's hydraulic system.

Type code

MDV	06	280	04	O	M	N	N	U	N
01	02	03	04	05	06	07	08	09	10

Weitai Multi Directional Vavle

01	MDV	MDV

Nominated diameter

02	12 **80 LPM**	04
	20 **100 LPM**	06

Safety Valve setting

03	315 bar	**315**

Section number

04	01~10	**04**

Spool function

05	Center closed	O
	Center open	Y

Control type

06	Manual	M
	Hydraulic	H

Auxiliary valve of work port A

07	Overload valve	O
	Without	N

Auxiliary valve of work port B

08	Overload valve	O
	Without	N

Handle control

09	Single pull	S
	Double pull	D

Special design

10	standard	N
	special	S

VSM Series Multi Directional Vavle



VSM series multiple directional control valves for construction machinery are completely equal to SM12, SM18 and SM25 multiple directional control valves.
They employ foundry oil way and piece type structure in the valve body, with the special features such as small in volume, large in flow, less pressure loss, higher degree of integration, and little operating force and compact in structure. On demand of users, they may be combined into any multiply directional control valve with different uses.

Type code

VSM	12	280	04	O	M	N	N	U	N
01	02	03	04	05	06	7	08	09	10
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Weitai Multi Directional Vavle

01	VSM	VSM

Nominated diameter

02	12 70 LPM	12
	15 150 LPM	15
	20 200 LPM	20
	30 300 LPM	30

Safety Valve setting

03	280 bar	280
	315 bar	315

Section number

04	01~10	04

Spool function

05	Center closed	O
	Center open	Y

Control type

06	Manual	M
	Hydraulic	H

Auxiliary valve of work port A

07	Overload valve	O
	Without	N

Auxiliary valve of work port B

08	Overload valve	O
	Without	N

Handle control

09	Upward	U
	Downword	D
	Without	N

Special design

10	standard	N
	special	S

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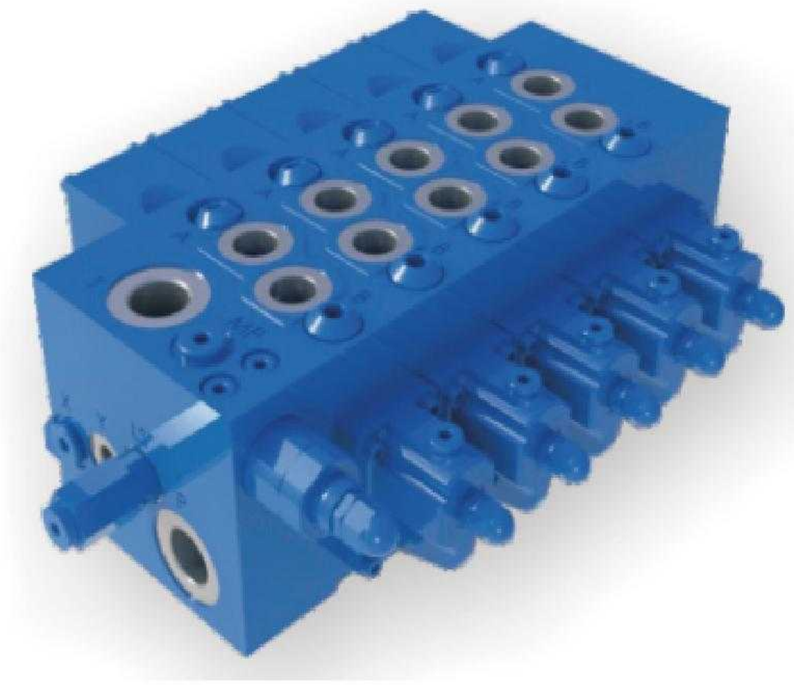
VM4 Series Multi Directional Vavle



VM4 Series model full load sensing multiple directional control valve has an excellent feature of "pressure compensating in front of valve", and each working oil port could supplies the corresponding flow according to the requirements of the host actuators, and to ensure that the working speed of each actuator not affected by load changing, and possessing fine micro motion performance. VM4 Series model full load sensing multiple directional control valve has various control modes, such as manual, hydraulic proportional, and electro-hydraulic proportional control. It is an ideal replacement of M4-12 and M4-12 series Valve.

Type code

VM4	12	280	04	Y	H	O	O	N	N	N
01	02	03	04	05	06	07	08	09	10	11

Weitai Multi Directional Vavle

01	VM4	VM4

Nominated diameter

02	12	100 LPM	12
	20	150 LPM	15

Safety Valve setting

03	350 bar	350

Section number

04	01~10	05

Spool function

05	Center closed	O
	Center open	Y

Control type

06	Hydraulic	H
	Electric Hydraulic	E

Auxiliary valve of work port A		Auxiliary valve of work port B		
07	Overload valve	08	Overload valve	O
	Without		Without	N

LS valve of work port A

09	LS valve	L
	Without	N

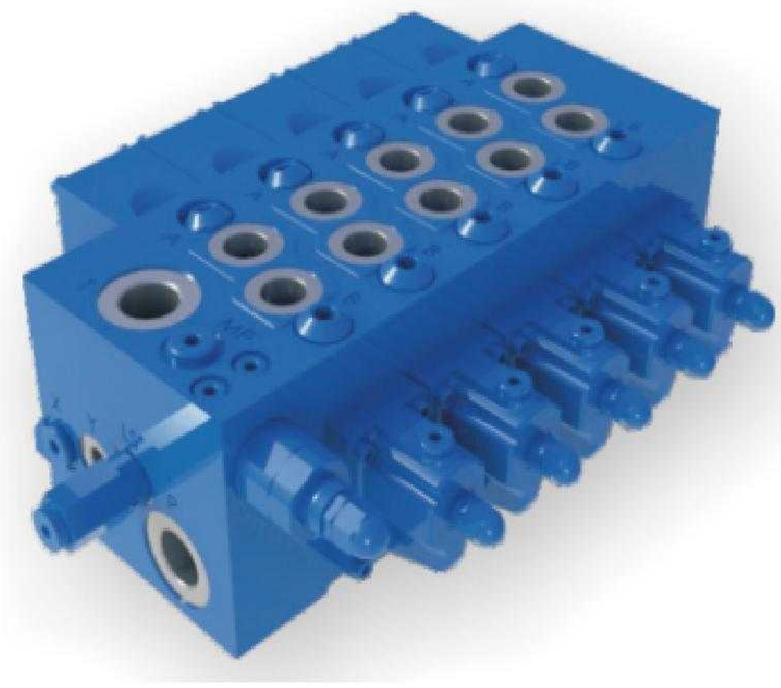
LS valve of work port B

10	LS valve	L
	Without	N

Special design

09	Standard	N
	Special	S
	Without	N

VM7 Series Multi Directional Vavle



VM7 Series load-sensitive multi-way directional valve adopts the LUDV system, which distributes the flow between the various directional valves according to the demand, regardless of the load pressure. The compact superposition valve plate design can be combined into different valve groups to meet the requirements of different equipment. Through the main relief valve, LS relief valve and secondary relief valve in a variety of ways to protect the system, there are manual, hydraulic control, electric ratio and other manipulation methods to choose from, used in truck cranes, truck cranes, small excavators and other construction machinery and equipment. It is an ideal replacement of M7-22 and M7-25 Valve.

Type code

VM7	12	280	04	Y	H	O	O	-	N
01	02	03	04	05	06	07	08		11

Weitai Multi Directional Vavle

01	VM7	VM7

Nominated diameter

02	22 400 LPM	22
	25 600 LPM	25

Safety Valve setting

03	350 bar	350

Section number

04	01~10	05

Spool function

05	Center closed	O
	Center open	Y
	Special	S

Control type

06	Hydraulic	H
	Electric Hydraulic	E

Auxiliary valve of work port A

07	Overload valve	O
	Refilling valve	F
	Without	N

Auxiliary valve of work port B

08	Overload valve	O
	Refilling valve	F
	Without	N

Special design

11	Standard	N
	Special	S
	Without	N

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