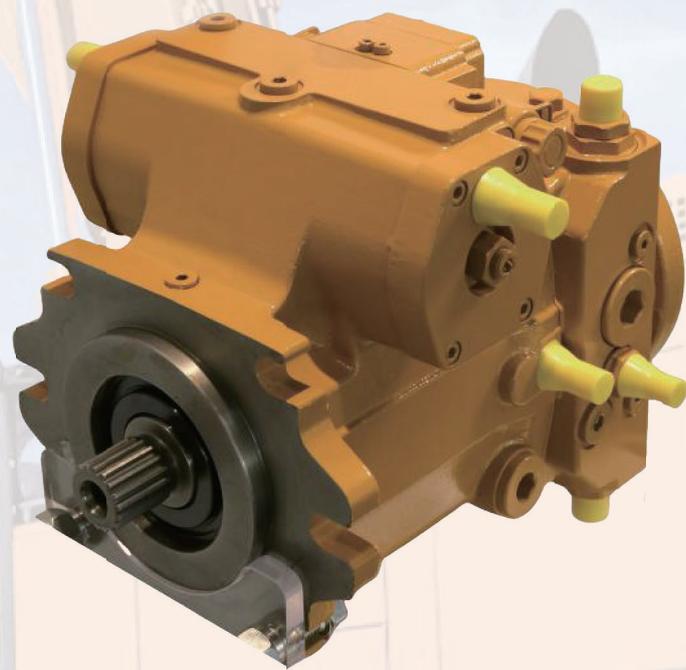


HYDRAULIC PISTON PUMP

Qingdao Weitai Hydraulic Co., Ltd.



WEITAI
HYDRAULIC 威泰液压

Product catalog

Bent axial piston pump

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Hydrostatic transmission device

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Technical data

Size			10	12	23	28	45	55	63	80	107	160	250
Max. Speed (r/min)	Open circuit	0.9	4700	3750	3750	2800	2850	2360	2550	2120	1900	1650	1400
	Inlet pressure (bar)	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 pressure	300											
	Max. pressure	350											
Weight (Kg)			5	5	12	12	23	23	33	33	44	63	88

● =Available ○ =On request - =Not available

Bent axial piston pump

A7V series Variable displacement pump of bent-axis design



- 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 (q_{vmax} to $q_{vmin}=0$)
- 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
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Size

02	$\approx V_{gmax}$ (mL/r)	58	78	80	107	117	160	250
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Control devices

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

Series

04	Series 2.0 ($V_{gmin} \neq 0$)	-	-	●	●	-	●	-	2.0
	Series 2.0 ($V_{gmin} = 0$)	●	●	-	-	●	-	-	
	Series 3.0 ($V_{gmin} \neq 0$)	-	-	-	-	-	●	-	3.0
	Series 5.1 ($V_{gmin} \neq 0$)	-	-	-	-	-	-	●	5.1

Direction of rotation(Viewed on drive shaft)

05	Clockwise	R
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	Counter-clockwise	L
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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	●	●	●	●	●	●	●	F
	Suction port: SAE J518 flange, at side								
07	Pressure port: Metric thread, at side	●	●	●	●	●	●	-	G
	Suction port: SAE J518 flange, at side								

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

Bent axial piston pump

A7V0(63) series Variable displacement pump of bent-axis design



- 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
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Operating mode

02	Pump, open circuit	O
----	--------------------	----------

Size

03	Vgmax (mL/r)	55	
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Control devices

		55	
04	Power controller without power override	<input type="radio"/>	LR
	With pressure cut-off	<input type="radio"/>	LRD
	With pressure cut-off and load sensing	<input checked="" type="radio"/>	LRDS
	Pressure controller	<input type="radio"/>	DR
	With load sensing	<input type="radio"/>	DRS

Series

05	Series 6, index 3	<input checked="" type="radio"/>	63
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Direction of rotation

06	Viewed on drive shaft (counter-clockwise)	<input checked="" type="radio"/>	L
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Sealing material

07	NBR,FKM	<input checked="" type="radio"/>	N
----	---------	----------------------------------	----------

Drive shaft

09	Splined shaft DIN 5480	<input checked="" type="radio"/>	Z
----	------------------------	----------------------------------	----------

Mounting flange

10	ISO 3019-2; 4-hole	●	B
----	--------------------	---	----------

Working Ports (metric thread)

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

Bent axial piston pump

A8V series Variable displacement pump of bent-axis design



- 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	11	12

Axial piston pump

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

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

		64	80	107	
03	Summation power control	○	○	●	SR
	Individual power control	○	○	●	ER

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
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Series

06	Series 1	1
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Gear ratio(input/rotary groups)

07	Ratio i=1	0
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Suction port (Metric thread)

08	SAE J518 Flange	1
----	-----------------	----------

Pressure Ports

09	SAE J518 Flange	F
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Stroke limiter

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

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

Bent axial piston pump

A8VO(63) series Variable displacement pump of bent-axis design



- 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
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Operating mode

02	Open circuit	O
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Size

03	Single pump displacement Vgmax	107	140	
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Control devices

		107	140	
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		107	140		
05	Series 6, Index 3	●	●	63	
		—	—	61	
Direction of rotation		107	140		
06	Viewed on drive shaft, clockwise	●	●	R	
Gear ratio($n_{input}/n_{rotary groups}$)		107	140		
07	Ratio=1			1	
Sealing material		107	140		
08	NBR, FKM	●	●	N	
	FKM	○	○	V	
Drive shaft		107	140		
09	Splined shaft DIN 5480	●	●	Z	
Mounting flange		107	140		
10	To fit flywheel housing of internal combustion engine (conforming to SAE J617)	●	●	G	
		—	—	N	
Working ports (metric thread)		107	140		
11	SAE J518 flange ports A1 and A2 at side, opposite SAE J518 flange ports S at rear	●	●	05	
Auxiliary pump		107	140		
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)

107 140

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

Bent axial piston pump

A8VO(72) series Variable displacement double pump of bent-axis design



- 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
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Operating mode

02	Open circuit	O
----	--------------	---

Size

03	Single pump displacement Vgmax	mL/r	225
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Control devices

225

	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
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Direction of rotation

06	Viewed on drive shaft, clockwise	R
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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

225

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

225

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)

225

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

225

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

Technical data

Size		10	12	23	28	45	55	63	80	107	160	250
Max. Speed (r/min)		7500	6000	5600	4750	4500	3750	4000	3350	3000	2650	2240
Working pressure (bar)	Nominal pressure	300										
	Max. pressure	350										
Torque	$\Delta p=350\text{bar}$	52	65	126	156	247	305	351	445	595	890	1391
Weight (Kg)		5	5	12	12	23	23	33	33	44	63	88

● =Available ○ =On request - =Not available

Bent axial piston motor

A2FE(61) series Axial motor with fixed displacement



- 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
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Mounting method

02	Plug-in	E
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Size

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

Series index

04	Series 6 ,Index 1	61
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Direction of rotation

05	Viewed on drive shaft ,bidirectional	W
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Sealing material

06	FKM	V
----	-----	---

Drive shaft

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

Mounting flange

08	ISO3019-2 2-hole	L
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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
		02	0	-	●	●	●	●	●	●	○	○	020
			7	-	○	●	●	●	●	●	○	○	○

	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	Max. pressure	Nominal speed (r/min)	Max. speed (r/min)	Output torque (ΔP=35) (N·m)
45	400	450	5000	5500	290
56			4500	5000	357
63					401
80			4000	4500	512
90					573
107					679
125			3600	4000	796
160					1021
180			3300	3600	1146

● =Available ○ =On request - =Not available

Bent axial piston motor

A2FM(61) series Axial motor with fixed displacement



- 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
- High power density

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	A2F
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Operating mode

02	Motor	M
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Size

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

Series

04	Series 6, Index 1	61
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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 DIN 5480	○	●	●	●	●	●	●	○	○	A
		○	●	●	●	●	●	●	○	○	Z

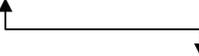
Mounting flange

08	ISO3019-2 4-hole	B
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Working port

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

	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

Technical data

Displacement (mL/r)	Nominal pressure (bar)	Max. pressure (bar)	Nominal speed (r/min)	Max. speed (r/min)	Output torque ($\Delta P=350\text{bar}$) (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

Bent axial piston motor

A6V series Variable displacement motor of bent-axis design



- Variable motor with axial piston rotary unit of bent-axis design, for hydrostatic transmission in open and closed circuits.
- Infinitely variable from $V_g \text{ max}$ to $V_g \text{ min} \neq 0$
- The output torque increases with the pressure difference between the high and low pressure sides and increasing displacement
- The wide control range enables the variable motor to satisfy the requirement for high speed and high torque

Type code

A6V	55	HD1	D	F	Z	2	0183
01	02	03	04	05	06	07	08

Axial piston pump

01	Bent- axis design, variable displacement	A6V
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Size

02	$\approx V_{g\text{max}}$ (mL/r)	55	80	107	160	250	
	$\approx V_{g\text{min}}$ (mL/r)	15.8	23	30.8	46	0	

Control devices

03	Hydraulic control	pilot pressure increase $\Delta p=10\text{bar}$	○	●	●	●	●	HD1
		pilot pressure increase $\Delta p=25\text{bar}$	-	-	-	-	●	HD2
	Automatic control high pressure related	With pressure increase $\Delta p \leq 10 \text{ bar}$	-	○	●	●	○	HA1
		With pressure increase $\Delta p=100 \text{ bar}$	●	●	●	●	○	HA2
	Electric two-point control(U=24V DC) Standard plug:DT04-2P		●	●	●	●	○	ES2
	Manual control		○	●	●	●	○	MA

Pressure adjustment

04	Pressure control	-	●	●	●	●	D
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Working Ports

05	SAE J518 flange ports A and B, at opposite side (metric thread)	●	●	●	●	●	F
	Metric thread, at side	-	-	○	-	-	G

Drive shaft

		55	80	107	160	250	
06	Parallel keyed shaft GB/T 1096-2003	-	-	○	-	-	P
	Splined shaft DIN5480	●	●	●	●	●	Z
	Splined shaft GB/T 3478.1-1995	-	○	-	-	-	S

Start of control

07	At Vgmin (standard for HA)	●	●	●	●	○	1
	At Vgmax (standard for HD, ES, MA)	●	●	●	●	●	2

Minimum displacement setting

08	Example: Vgmin=18.3(mL/r)	0183
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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	300	350	3400	4500	261	27
80			3000	4000	381	39
107			2700	3600	510	52
160			2400	3200	763	74
250			1800	2200	1192	103

● =Available ○ =On request - =Not available

Bent axial piston motor

A6VE(63) series Axial motor with variable displacement



- 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 V_{gmax} to $V_{gmin}=0$
- 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
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Operating mode

02	Plug-in motor	E
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Size

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

04	Hydraulic two-point control (with differential cylinder)	●	●	●	●	●	HZ1
	Hydraulic two-point control (with directional valve)	●	—	—	●	—	HZ3
	Hydraulic proportional control $\Delta p=10\text{bar}$	●	●	●	●	●	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 $\Delta p=10\text{bar}$	●	●	●	●	●	HA1
	Automatic control ,high pressure related $\Delta p=100\text{bar}$	●	●	●	●	●	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
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Direction of rotation

07	Viewed on drive shaft ,bidirectional	W
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Sealing material

08	FKM	V
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Drive shaft

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

Mounting flange

10	ISO 3019-2 2-hole	L
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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 pressure 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
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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

Technical data

Displacement (mL/r)		Nominal pressure (bar)	Max. pressure (bar)	Max. speed (r/min)			Max. torque ($\Delta P=400$ bar) (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

Bent axial piston motor

A6VM(63) series Axial motor with variable displacement



- 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 V_{gmax} to $V_{gmin}=0$
- 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

L6V	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	L6V
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Operating mode

02	Motor	M
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Size

03	Maximum displacement (mL/r)	80	107	115	160	200	250
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Control devices

04	Hydraulic two-point control	●	●	●	●	●	○	HZ1
	Hydraulic proportional control $\Delta p=10\text{bar}$	●	●	●	●	●	○	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 $\Delta p=10\text{bar}$	●	●	●	●	●	○	HA1
	Automatic control ,high pressure related $\Delta p=100\text{bar}$	●	●	●	●	●	○	HA2

Pressure control/Overriding control

05	Without pressure control ,only for HD,EP,EZ (without code)	●	●	●	●	●	○
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	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
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Direction of rotation

07	Viewed on drive shaft ,bidirectional	W
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Sealing material

08	FKM	V
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Drive shaft

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

Mounting flange

10	ISO 3019-2 4-hole	B
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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	○	●	●	●	●	○	020
			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
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Technical data

Displacement (mL/r)		Nominal pressure (bar)	Max. Pressure (bar)	Max. speed (r/min)			Max. torque ($\Delta P=400\text{bar}$) (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 ($\Delta P=350\text{bar}$)	100

● =Available ○ =On request - =Not available

Swashplate piston pump

A4VG(32) series Variable axial piston pump of swashplate design



- 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
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Size

02	Maximum displacement	mL/r	56	71	90	125	180
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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	
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	-	-	-	-	-	3R
		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 -1 st pump	●	●	●	●	-	A
	Splined shaft ANSI B92.1a-1976	for single pump	●	●	●	●	●	S
		for combination pump -1 st pump	●	●	●	●	●	T
		only for combination pump-2 nd 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
	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

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

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

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

Swashplate piston pump

A10VG(10) series Variable axial piston pump of swashplate design



- 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
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Size

02	Maximum displacement	mL/r	28	45
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Control devices

			28	45		
03	Manual control		-	-	MD	
	Hydraulic control	Pilot-pressure related, with filtration	○	○	HD3	
		Mechanical servo	○	○	HW	
		Direct operated	-	-	DG	
		Speed related (see DA control valve instruction on 08)	U=12V DC	-	-	DA1
			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	
04	Without pressure cut-off (not suitable for DA, without code)	●	●	
	With pressure cut-off	●	●	D

Neutral position switch (only for HW)

		28	45	
05	Without neutral switch (without code)	●	●	
	With neutral switch (only for DEUTSCH)	○	○	L

Mechanical stroke limiter 28 45

06	Without mechanical stroke limiter (without code)	●	●	
	Mechanical stroke limiter, externally adjustable	-	-	M

Spring centering of neutral position (only for MD) 28 45

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

DA control valve 28 45

08	Without DA control valve	●	●	1	
	With DA control valve , fixed setting	-	●	2	
	DA control valve , mechanically adjustable with position lever	Direction of actuation , clockwise	-	-	3R
		Direction of actuation , counter-clockwise	-	-	3L
	DA control valve, fixed setting and hydraulic inch valve mounted ,control with brake fluid ,no mineral oil .	-	-	4	
	DA control valve, fixed setting, ports for pilot control device	-	-	7	
	DA control valve, fixed setting, and hydraulic inch valve mounted, control with brake fluid based on mineral oil.	-	-	8	

Series

09	Series 1, index 0			10
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Direction of rotation

10	Viewed on drive shaft	Clockwise		R
		Counter-clockwise		L

Sealing material

11	NBR, shaft seal in FKM			N
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Drive shaft

28 45

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

Mounting flange

13	SAE J744-2 Bolt hole			C
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Working port (Metric thread)

28 45

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

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

16	Flange SAE J744	Hub for splined shaft		28	45	
	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 Δp

28 45

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

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

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

28 45

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

● =Available ○ =On request - =Not available

Swashplate piston pump

A10VO(31) series Variable axial piston pump of swashplate design



- Variable axial piston pump of swashplate design for applications in 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
- Excellent suction performance
- High Reliability, long service life.

Type code

A10V	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	10V
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Operating mode

02	Pump, open circuit	O
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Size

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

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

Swashplate piston pump

A10VO(52/53) series Axial piston pump of swashplate design



- 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	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
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Operating mode

02	Pump, open circuit	O
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Size

03	Maximum displacement	mL/r	28	45	60
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Control devices

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

Type code 53 series

L10V	O	72	DR	/	53	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	L10V
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Operating mode

02	Pump , open circuit	O
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Size

03	Maximum displacement mL/r	28	45	60/63	72	100	110	130
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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	○	○	○	○	○	○	●	●
U=12V DC			○	○	○	○	○	●	●	●	EK1DS
U=24V DC			○	○	○	○	○	●	●	●	EK2DS

Series

05		53
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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	

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	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

	Pressure cut-off	●	●	●	○	●	●	○	○	EP2D
	Pressure control remote controlled	○	○	○	●	○	○	○	○	DRG

Series

06		1
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Index

07	Size 95...115	0
	Size 125...280	1

Direction of rotation

08	Viewed on drive shaft	Clockwise	R
		Counter clockwise	L

Sealing material

09	NBR, FKM	N
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Drive shaft

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

Mounting flange

11	SAE J744 4-hole	D
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Working port

12	SAE flange ports, opposite side, metric thread	12
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Through drive

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

¹⁾ 2=2孔 4=4孔

Connectors for solenoids		95	115	125	130	145	165	190	260	
								215	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

Swashplate piston pump

LP1V series Axial piston pump of swashplate design



- 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

LP1V	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.	●	LP1V
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Size

02	Maximum displacement	mL/r	440
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Control device

03	Hydraulic servo control with feedback	●	EP
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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
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Working port

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

07	With integrated valve	●	J
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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

● =Available ○ =On request - =Not available

Swashplate piston pump

HPV series Axial variable 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

LY	H	PV	2	37	L	02	A
01	02	03	04	05	06	07	08

Company identification

01	Suzhou Liyuan Hydraulic	LY
----	-------------------------	----

Control devices

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

Product series

03	Variable axial piston pump	PV
----	----------------------------	----

Single pump/tandem pump

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

Size

05	Vgmax	mL/r	34	37	42	56
----	-------	------	----	----	----	----

Direction of rotation

06	Viewed on drive shaft	Counterclockwise	L
		Clockwise	R

Filtration

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

Series

08	Series A	A
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Technical data

Displacement (mL/r)	Nominal pressure (bar)	Max. pressure (bar)	Input speed (r/min)	Max. power of single pump (kW)	Weight of single pump (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

Hydrostatic transmission device

HST series Hydrostatic transmission unit



- 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

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

Company identification

01	Suzhou Liyuan Hydraulic	LY
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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
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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
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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

Hydrostatic transmission device

DHST series Double Hydrostatic Transmission



- 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
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Size

02	Vgmax	mL/r	42	45
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Pump size

03	Variable pump	V
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Motor size

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

Series

06	Series A	A
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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)
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

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