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TECHYDRO

PUMP

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Ningbo Tech-Hydro Co. Ltd

TECHYDRO

Mo Tu We Th Fr Sa Su

Memo No. _____

Date / /

Contents

GROUP 1 SERIES

Pmax: 250bar(3500psi)
Qmax: 0.8cc/rev-7.8cc/rev
Mounting Type: SAE2- -bolt
European & DIN4-bolt

Please contact us for detail sizes and chart.

How To Order

TH- GP - 1A - F - 08 - R - X - 2B 10

01 02 03 04 05 06 07 08

01 **Model:** Gear Pump

02 **Group:** 1 Group

03 **Mounting:** F: Flange Type L: Foot Type

04 **Displacement**
1:1 cc/rev 2:2cc/rev 3:3cc/rev 4:4cc/rev
5:5cc/rev 6:6cc/rev 8:7.8cc/rev

05 **Rotational Direction (Viewed from shaft side):**
R : Clockwise; L : Counter- clockwise

06 **Shaft Type:**
X: Straight Shaft Y: Spline shaft

07 **Flange Mounting Type:**
2B: SAE2-bolt、4BD: DIN4-bolt
4DE: European 4- bolt

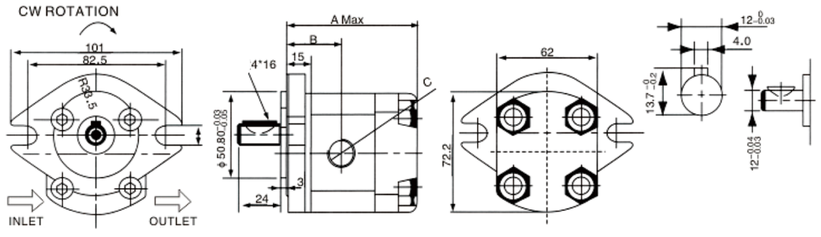
08 **10 Serial Number:**10

Specification

Model	Displacement cc/rev	Pressure bar(psi)		Speed rpm			Weight(kg)
		Working Pressure	Max.	Rated	Max.	Min.	
TH-GP-1A-F1*	1	210(3000)	250(3500)	1800	4500	1000	1.0
TH-GP-1A-F2*	2				4500	600	1.05
TH-GP-1A-F3*	3				4500	600	1.15
TH-GP-1A-F4*	4				4000	600	1.18
TH-GP- 1A-F5*	5				3200	600	1.2
TH-GP-1A-F6*	6				3200	600	1.3
TH-GP -1A-F8*	7.8				3200	600	1.3

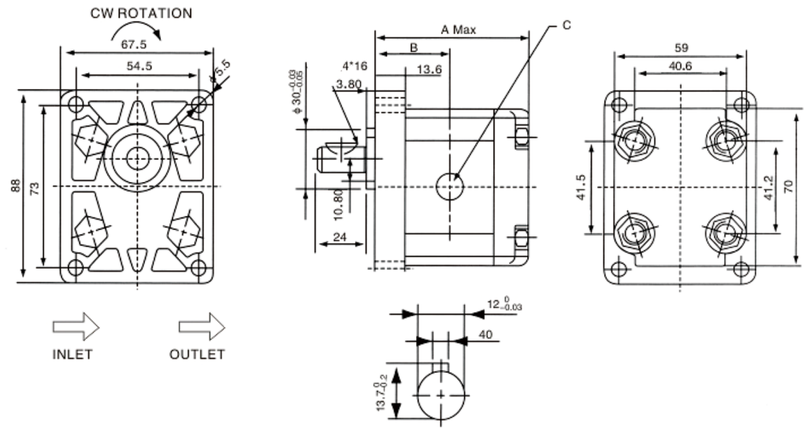
Dimension

TH-GP-1A-F*-*-*-2B-10(SAE 2-bolt)

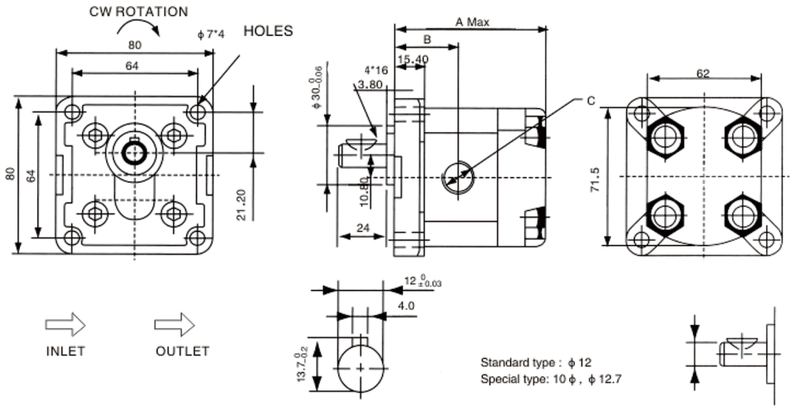


Dimension

TH-GP-1A-F*-*-*-4BD-10(DIN 4-bolt)



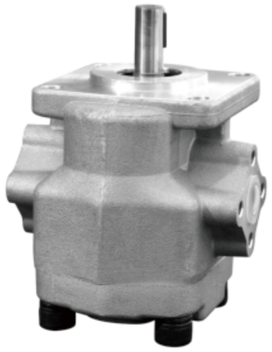
TH-GP-1A-F*-*-*-4BE-10(European 4-bolt)



Specification

Model	imensionA mm	imensionBmm	C-Inlet	D-Outlet
TH-GP-1A- FO8"	75	36.5	3/8'PT	3/8'PT
TH-GP-1A-F1*	77	38.5	3/8"PT	3/8"PT
TH-GP-1A-F2*	80.5	40.25	3/8"PT	3/8"PT
TH-GP-1A-F3*	86	43	3/8"PT	3/8"PT
TH-GP-1A-F4*	88	44	3/8"PT	3/8"PT
TH-GP-1A-F5*	92	46	3/8"PT	3/8"PT
TH-GP-1A-F6*	96	48	3/8"PT	3/8"PT
TH-GP-1A-F8*	102K	51	1/2"PT	3.8"PT

GROUP 2 SERIES



Pmax: 250bar(3500psi)
Qmax: 2cc/rev-12cc/rev
Mounting Type: JIS4- -bolt

Please contact us for detail sizes and chart.

How To Order

TH-GP - 2A - F - 08 - R - X - 4JB 10
01 02 03 04 05 06 07 08

01 **Model:** Gear Pump

02 **Group:** 2 Group

03 **Mounting:** F: Flange Type L: Foot Type

04 **Displacement**
2:2cc/rev 3:3cc/rev 4:4cc/rev
6:6cc/rev 8:7.5cc/rev 8:7.8cc/rev
9:9cc/rev 11:10.5cc/rev 12:12cc/rev

05 **Rotational Direction (Viewed from shaft side):**
R : Clockwise omittrd; L : Counter- clockwise

06 **Shaft Type:**
X: Straight Shaft
Y: Spline shaft

07 **Flange Mounting Type:**
4JB: JIS4-bolt

08 **10 Serial Number:**10

Specification

Model	Displacement cc/rev	Pressure bar(psi)		Speed rpm			Weight(kg)
		Working Pressure	Max.	Rated	Max.	Min.	
TH-GP-2A-F2*	2	210(3000)	250(3500)	1800	5000	900	1.63
TH-GP-2A-F3*	3				5000	850	1.65
TH-GP-2A-F4*	4				4500	800	1.67
TH-GP- 2A-F6*	6				3500	700	1.69
TH-GP-2A-F8*	7.5				3000	600	1.72
TH-GP -2A-F9*	9	175(2500)	210(3000)		2500	550	1.75
TH-GP -2A-F11*	10.5				2000	500	1.77
TH-GP -2A-F12*	12				2000	500	1.80

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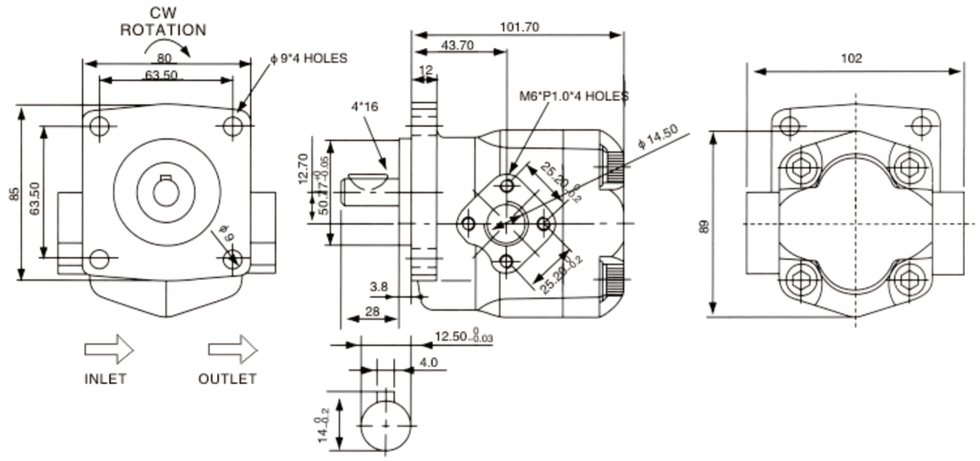
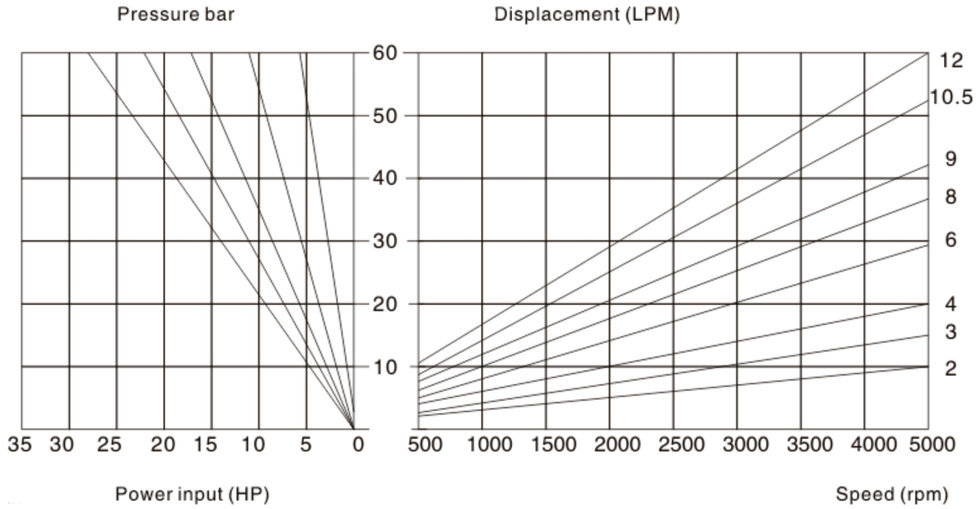
Dimension

TH-GP-2A Series



Performance curve :

Pressure, Power Input, Displacement, Speed



GROUP 3 SERIES

Pmax: 250bar(3500psi)
Qmax: 6cc/rev-30cc/rev
Mounting Type: SAE2- -bolt NIN 4-BOLT

Please contact us for detail sizes and chart.

How To Order

TH-GP	-	3A	-	F	-	14	-	R	-	X	-	4JB	10
01		02		03		04		05		06		07	08

01 **Model:** Gear Pump

02 **Group:** 3 Group

03 **Mounting:** F: Flange Type L: Foot Type

04 **Displacement**
6:6cc/rev 8:8.4cc/rev 11:11 cc/rev
14:14.3cc/rev 17:16.5cc/rev 19:1 9.2cc/rev
23:23cc/rev 25:25cc/rev 28:28cc/rev 30:30cc/rev

05 **Rotational Direction (Viewed from shaft side):**
R : Clockwise omittrd; L : Counter- clockwise

06 **Shaft Type:**
X: Straight Shaft
Y: Spline shaft

07 **Flange Mounting Type:**
2B: SAE2-bolt、4BD: DIN4-bolt

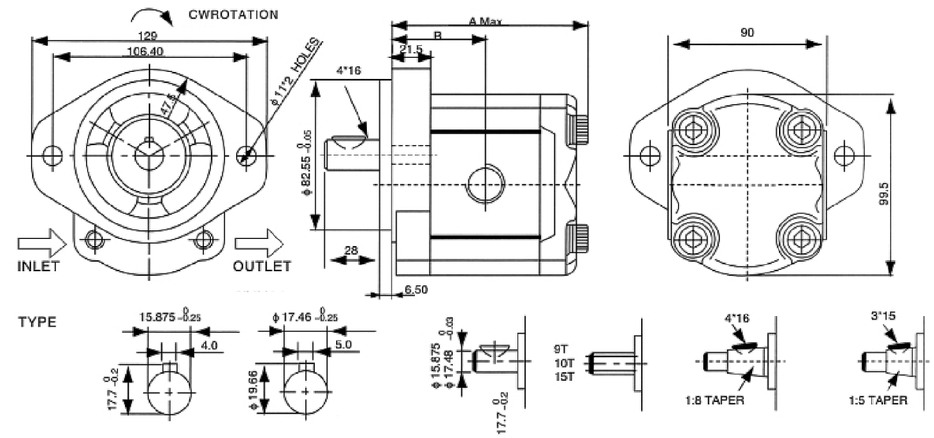
08 **10 Serial Number:**10

Specification

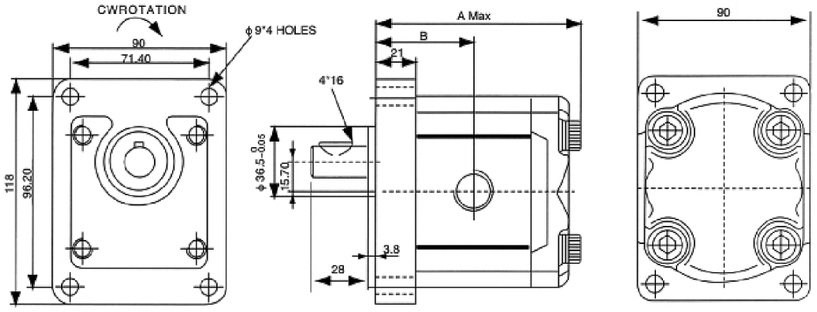
Model	Displacement cc/rev	Pressure bar(psi)		Speed rpm			Port Sizes		Weight(kg)
		Working Pressure	Max.	Rated	Max.	Min.	Inlet	Outlet	
TH-GP-3A-6*	6	210(3000)	250 (3500)	1800	3000	700	PT 3/4	PT 1/2	2.25
TH-GP- 3A-8*	8.4								2.40
TH-GP-3A-1 1 *	11					600			2.55
TH-GP-3A-14*	14.3					400			2.85
TH-GP- -3A-17*	16.5								3.05
TH-GP- -3A-19*	19.2								3.20
TH-GP- -3A-23*	23	175(2500)							3.35
TH-GP- -3A-25*	25	140(2000)	175 (2500)				PT 1	PT 3/4	3.5
TH-GP- -3A-28*	28								3.6
TH-GP-3A-30*	30								3.6

Dimension

TH-GP- .*3A-**-2B-10

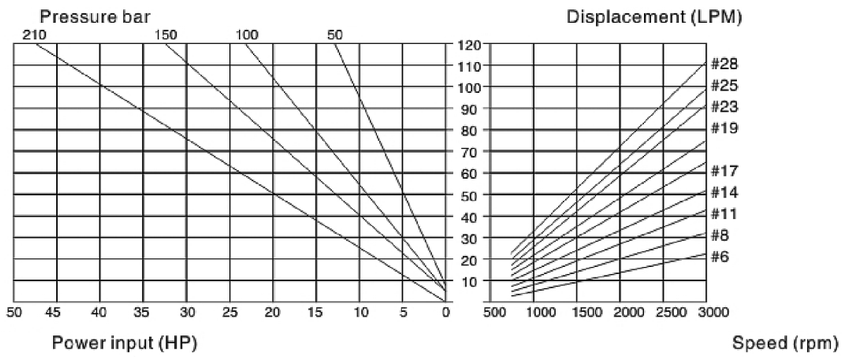


TH-GP- .*3A-**-4B-10



Performance curve :

Pressure, Power Input, Displacement, Speed



TH-SNCB SERIES

TH-S3NCB 4 - 3 - 3 / 64 / 25 / 25 - 1 R - H - S1
01 02 03 04 05 06 07 08 09 10 11

01 **TS3NCB:** Triple internal gear pump.

02 **Front Pump Series Number**
4: Oil inlet and outlet 90°

03 **Medium Pump Series Number**
3: Oil inlet and outlet 90°

04 **Rear Pump Series Number**
3: Oil inlet and outlet 90°

05 **Front Pump Capacity**

4	64	80	100

06 **Medium Pump Capacity**

3	25	32	40	50

07 **Rear Pump Capacity**

3	25	32	40	50

08 **Shaft Extension Form**
1: Flat key 2: Spline

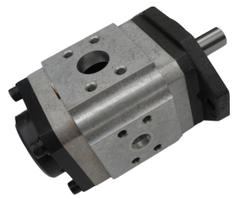
09 **Rotation (as seen from the axial end)**
R: clockwise (can be omitted)
L: counterclockwise

10 **Pump Body Material**
Unmarked: aluminum pump body
H: cast iron pump body

11 **Design Number**

TH-S/T-SDNCB SERIES

TH- S/T-SDNCB 2 - 8 - 2 R - H - S1
01 02 03 04 05 06 07



01 **TSNCB:** internal gear pump
TSDNCB: low speed pressure maintaining internal gear pump

02 **Serial Number**

2; 2A	4	5	6	8	11	13	16	19	20	22	25

2: Oil inlet and outlet 90.
2A: Oil inlet and outlet 180.

3	25	32	40	50	63

4	64	80	100

5	80	100	125	145	160

03 **Displacement (mL/r)**

4	5	6	8	11	13	16	19	20	22	25	32	40	50	63	64	80	100	125	145	160

04 **Shaft Extension Form**
1: Flat key 2: Spline (specific parameters see each single pump)

05 **Rotation**
R: clockwise (can be omitted)
L: counterclockwise

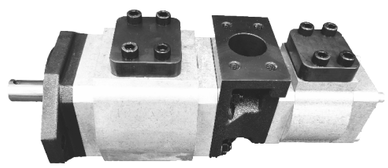
06 **Pump Body Material**
Unmarked: aluminum pump body
H: cast iron pump body

07 **Design number**

TH-S2NC SERIES

TH-S2NC 3 / 3 - 40 / 32 - 1 R - H - S1
01 02 03 04 05 06 07 08 09

01 **T-S2NC:** Double internal gear pump.



02 **Front Pump Series Number**
2, 3, 4, 5: oil inlet and outlet 90°
2A: Oil inlet and outlet 180°

03 **Rear Pump Series Number**
2, 3, 4, 5: oil inlet and outlet 90°
2A: Oil inlet and outlet 180°

04 **Front Pump Displacement (mL/r)**

2	4	5	6	8	11	13	16	19	20	22	25

3	25	32	40	50

4	64	80	100

5	80	100	125	145	160

05 **Rear Pump Displacement (mL/r)**

2	4	5	6	8	11	13	16	19	20	22	25

3	25	32	40	50

4	64	80	100

5	80	100	125	145	160

06 **Shaft Extension Form**
1: Flat key 2: Spline
... : Corresponding to the front pump series shaft extension

07 **Rotation (as seen from the axial end)**
R: clockwise (omitted) L: counterclockwise

08 **Pump Body Material**
Unmarked: aluminum pump body H: cast iron pump body

09 **Design number**

TH-315 TH-330 TH-350 TH-365 SERIES

TH-315 SERIES

- Heavy duty sleeve bushing design
- Available in 7 gear/displacement sizes
- 2-bolt flange options
- Pressure balanced wear plates
- Working pressure up to 3500 psi
- Multiple bearing carrier options & porting options
- High strength steel gear & shaft sets
- Alternatives for Commercial®/Parker®, Permco® and Muncie® gear products

DH315 Series Specifications		
Displacement	(in^3/r)	.62 - 2.48
	(cm^3/r)	(10.2 - 40.6)
Max. Speed	RPM	3000
Max. Pressure	PSI bar	3500 - 2500 (241 - 172)
Weight	Lbs Kgs	16 - 22 (7 - 10)

TH-330 SERIES

- Heavy duty sleeve bushing design
- Available in 7 gear/displacement sizes
- 2-bolt & 4-bolt flange options
- Pressure balanced wear plates
- Working pressure up to 3500 psi
- Multiple bearing carrier options & porting options
- High strength steel gear & shaft sets
- Alternatives for Commercial®/Parker®, Permco® and Muncie® gear products

DH330 Series Specifications		
Displacement	(in^3/r)	.99 - 3.94
	(cm^3/r)	(16.1 - 64.6)
Max. Speed	RPM	3000
Max. Pressure	PSI bar	3500 - 2500 (241 - 172)
Weight	Lbs Kgs	36 - 41 (16 - 19)

TH-350 SERIES

- Heavy duty sleeve bushing design
- Available in 9 gear/displacement sizes
- 2-bolt & 4-bolt flange options
- Pressure balanced wear plates
- Working pressure up to 3500 psi
- Multiple bearing carrier options & porting options
- High strength steel gear & shaft sets
- Alternatives for Commercial®/Parker®, Permco® and Muncie® gear products

DH350 Series Specifications		
Displacement	(in^3/r)	1.28 - 6.38
	(cm^3/r)	(20.9 - 104.5)
Max. Speed	RPM	2400
Max. Pressure	PSI bar	3500 - 2500 (241 - 172)
Weight	Lbs Kgs	50 - 60 (23 - 27)

TH-360 SERIES

- Heavy duty sleeve bushing design
- Available in 8 gear/displacement sizes
- 2-bolt & 4-bolt flange options
- Pressure balanced wear plates
- Working pressure up to 3500 psi
- Multiple bearing carrier options & porting options
- High strength steel gear & shaft sets
- Alternatives for Commercial®/Parker®, Permco® and Muncie® gear products

DH365 Series Specifications		
Displacement	(in^3/r)	2.70 - 9.00
	(cm^3/r)	(44.3 - 147.5)
Max. Speed	RPM	2400
Max. Pressure	PSI bar	3500 - 3000 (241 - 207)
Weight	Lbs Kgs	56 - 71 (25 - 32)

TH-C101/102 SERIES CAST IRON GEAR PUMP

Combination pumps

• Pump with Direction Control Valve configured Relief, Spool at raise or neutral position, to protect the system.
• 2-line installation fit for intermittent operation only, 3-line nstallation fit for continuous or intermittent operation.
• Manual and pneumatic operation, customer can replace parts to switch operation way.
• Rated pressure 175/210 bar, Speed range 600-2400 RPM.

TH-C 101 - L - AS - 20
01 02 03 04 05

01 Series
C
G

02 Type of Mount
1 = Remote Mount
2 = Direct Mount

03 Rotation
R = Right (Clockwise)
L = Left (Counter-clockwise)
X = For 101 Type

04 Control Mode
AS = Airshift Control
MS = Manual operation

05 Displacement
Displacement in^3/r (cm^3/r)
20 = 5.10 (83.6) - MH101C & MH102C only
25 = 6.38 (104.6) - MH101C & MH102C only
0.7 = 1.48 (24.3) - MH101G & MH102G only
1.5 = 2.96 (48.5) - MH101G & MH102G only
2 = 3.94 (64.6) - MH101G & MH102G only

TH-A2F SERIES-REXROTH PISTON PUMP

TH-A2F 63 R 2 P 1
01 02 03 04 05

01 Displacement
Displacement ml/r
10,12,23,28,45,55,63,80,107,125,160,200,250,355

02 Direction of Rotation
R = Clockwise
L = Anti-clockwise
W = Alternating

03 Series

Series	4		2/3		1/2	1/2	2		1/2	2		5		
Size	10	12	23	28	45	55	63	80	107	125	160	200	250	355
Port plate 1	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Port plate 2				●	●	●	●	●	●	●	●	●	●	●
Port plate 3					●	●	●	●	●	●	●			
Port plate 4	●	●	●	●										

04 Port Plate
1 = Metric port A/B at side (Pump/Motor)
2 = SAE port A/B at side (Pump/Motor)
3 = SAE port A at side and port B at rear (PUMP)
4 = SAE port A at side and port B at rear (PUMP)
5 = B AND S PORT AT REAR
6 = A AND B POR AT REAR

05 Shaft End
P = keyed shaft GB1096-79
Z = splines shaft DIN 5480
S = splines shaft GB 3478.1-83

TH-A2FO SERIES-REXROTH

TH-A2FO 16 / 6 1 R V - A B 06
01 02 03 04 05 06 07 08

01 Displacement
Vg max, unit cm³ = 5, 10, 12, 16, 23, 28, 32, 45, 56, 63, 80, 90, 107, 125 ,160, 180, 200

02 Series

03 Index
1 = NG10 to 180
3 = NG200

04 Directions of rotation
R = clockwise
L = counter-clockwise

05 Seals
N = NBR (nitrile butadiene rubber), FKM rotary shaft seal (Viton)
V = FKM (Fluorocarbon)

06 Drive shafts

	5	10	12	16	23	28	32	45	56	63	80	90	107	125	160	180	200	
Splined shaft	–	●	●	●	●	●	●	–	●	●	●	●	●	●	●	●	●	A
DIN 5480	–	●	●	–	●	●	–	●	●	–	●	–	●	–	●	–	–	Z
Parallel keyed shaft	●	●	●	●	●	●	●	–	●	●	●	●	●	●	●	●	●	B
DIN 6885	–	●	●	–	●	●	–	●	●	–	●	–	●	–	●	–	–	P
Conical shaft [1]	●	–																C

1) Conical shaft with threaded pin and woodruff key (DIN 6888).
The torque must be transmitted via the tapered press fit.

07 Mounting flanges

	5 to 250	
ISO 3019-2 4-hole	●	B

08 Port plates for service lines [2]

	5	10 to 16	23 to 250	
SAE flange port A/B at side and SAE flange port S at rear	–	–	●	05
Threaded port A/B at side and threaded port S at rear	–	●	–	06
Threaded ports A/B and S at side	●	–	–	07

2) Fastening thread or threaded ports, metric.

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TH-A17FO SERIES-REXROTH

Size 23 to 107
Nominal pressure 300 bar
Maximum pressure 350 bar
Open circuit

TH-A17FO __ / 10 N L W K0 __ __
01 02 03 04 05 06 07 08

01 Sizes (NG)

Geometric displacement, see table of values on page 5	023	032	045	063	080	107

02 Series

Series 1, index 0	10

03 Configuration of ports and fastening threads

Metric, port threads with profiled sealing ring according to DIN 3852	N

04 Direction of rotation[1)]

Viewed on drive shaft, counter-clockwise	L

05 Seals

FKM (fluor-caoutchouc) including the 2 shaft seal rings in FKM	W

06 Mounting flange

Special flange ISO 7653-1985 (for trucks)	K0

07 Drive shaft

Splined shaft similar to DIN ISO 14 (for trucks)	E8
Splined shaft E8 with coupling flange	C8

08 Port plate for service lines

Threaded ports A and S at rear	1
Threaded ports A and S at rear, with suction stud mounted in S	2

TH-A10V SERIES-REXROTH

TH-A10V(S)O 71 (01) DR (02) / 31 (03) R (04) P (05) S (06) C (07) 62 (08) NOO (09) SO97 (10)

01 Displacement

Displacement in³/r (cm³/r)

10,18,28,45,60,63,71,74,85,100,110,140

02 Control Devices

DR **DRG**	Pressure control Pressure remote control
DFR **DFR1**	Pressure and flow control Pressure and flow (X-T port blocked)
DFLR	Pressure, Flow & HP
ED71/72	Electric, negative control
LA*D	Pressure, Flow & HP (53 SERIES)

***Minimum Start of control**
LA5D-10 TO 35 BAR (145 - 507 PSI)
LA6D-36 TO 70 BAR (522 - 1015 PSI)
LA7D-71 TO 105 BAR (1030 - 1523 PSI)
LA9D-141 TO 230 BAR (2045 - 3336 PSI)
LA8D-106 TO 140 BAR (1537 - 2031 PSI)

03 Series

31/32 = 18, 28, 45, 71, 74, 100, 140
52/53 = 18, 28, 45, 60/63, 85, 100

04 Direction of Rotation

Viewed from shaft end **R** = clockwise **L** = counter-clockwise

05 Seals

P = Buna-N (NBR per DIN IS0 1629) **V** = FPM (Flurocarbon/Viton) **E** = EPR

06 Shafts

Type	10	18	28	45	60/63	71/74	85	100	140	
Keyed	3/4"	3/4"	7/8"	1"	1 1/4"	1 1/4"	-	1 1/2"	1 3/4"	**K**
Splined	3/4-11T	3/4-11T	7/8-13T	1-15T	1¼-14T	1¼-14T	1 ½-17T	1 ½-17T	1 ¾-13T	**S**
Splined "S"-Reinforced	-	3/4-11T	7/8-13T	1-15T	1¼-14T	1¼-14T	1 ½-17T	1 ½-17T	-	**R**
Splined Non-Thru Drive	5/8-9T	5/8-9T	3/4-11T	7/8-13T	1-15T	1-15T	1¼-14T	1¼-14T	-	**U**
Splined "U"-Reinforced	-	-	-	7/8-13T	1-15T	-	1¼-14T	1¼-14T	-	**W**
Splined "Full Spline"	-	-	-	-	7/8-13T	-	-	-	-	**Q**
Keyed Metric	18mm	18mm	22mm	25mm	32mm	32mm	-	40mm	45mm	**P**

07 Mounting Flange pilot diameter (in/mm)

CODE		10	18	28	45	60/63	71/74	85	100	140
C	**SAE 2 Bolt**	SAE "A", 3.25"	SAE "A", 3.25"	SAE "B", 4.0"	SAE "B", 4.0"	SAE "B", 4.0"	SAE "C", 5.0"	SAE "C", 5.0"	SAE "C", 5.0"	-
A	**ISO 2 Bolt Metric**	80 mm	80 mm	100 mm	100 mm	-	125 mm	125 mm	125 mm	-
D	**SAE 4 Bolt**	-	-	-	-	SAE "C", 5.0"	-	-	-	SAE "D", 6.0"
B	**ISO 4 Bolt Metric**	-	-	-	-	-	-	-	-	180 mm

08 Service Ports

4-Bolt Flange ports (except where noted)	**11**[1)2)]	Rear ports, Metric Thread
	41[1)2)]	Rear ports, Metric Thread
	61[1)2)3)]	Rear ports, UNC Thread
	91[1)2)]	Rear ports, UNC Thread
	12	Side ports, Metric Thread
	42	Side ports, Metric Thread
	62[3)]	Side ports, UNC Thread
	92	Side ports, UNC Thread
Str. Thread O-ring ports (52/53 Series)	**14**	Rear ports, Metric Threaded
	64	Rear ports, UNC Threaded

1) A10V28-140 only
2) All REAR porting, Non-thru drive only
3) A10V71; 8-Threaded holes on Pressure port code 61 & 62

09 Thru Drives

N00	Without thru drive (Non-Thru Drive)			
K**	With thru drive to accept a secondary pump			
	Mtg Flg	**Hub**	**Sealing**	**To Mount**
K40	82-2(A)	3/4" keyed(A-B)	axial	A10V18 (K)
K03	101-2(B)	7/8" keyed(B)	axial	A10V28 (K)
K05	101-2(B-B)	1" keyed(B-B)	axial	A10V45 (K)
K08	127-2(C)	1-1/4" keyed(C)	axial	A10V71 (K)
K38	127-2(C)	1-1/2" keyed(C)	radial	A10V100 (K)
K21	152-4 (D)	1-3/4" keyed(D)	axial	A10V140 (K)
K01	82-2(A)	5/8" 9T(A)	axial	A10V18(U,W), 10(U)
K52	82-2(A)	3/4" 11T(A-B)	axial	A10V18(S,R), 10(S)
K68/K02	101-2(B)	7/8" 13T(B)	axial	A10V28(S,R), 45(U,W)
K04	101-2(B)	1" 15T(B-B)	axial	A10V45(S,R), 60(U,W)
K07/K15	127-2(C)	1-1/4" 14T(C)	axial	A10V71(S,R), 100 (U,W)
K24	127-2(C)	1-1/2" 17T(C-C)	axial	A10V100(S,R), 85(S)
K17	152-4(D)	1-3/4" 13T(D)	axial	A10V140(S,R)

Couplings sold separately for our thru drive units.

10 Special Suffix

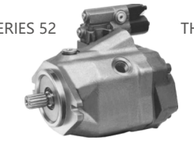
SO97☒	Max volume stop adjust (std)
-	Omit if none required

4) Available on all 52/53 side port/thru drive 31 design non thru

TH-A10VNO SERIES 52 AND 53-REXROTH

- Size 28 to 85
- Nominal pressure 210 bar
- Maximum pressure 250 bar
- open circuit

TH-A10VNO SERIES 52



TH-A10VNO SERIES 53

Features

- Variable axial piston pump of swashplate design for hydrostatic drives in open circuits.
- The flow is proportional to the drive speed and the displacement.
- The flow can be infinitely varied by adjusting the swash plate angle.
- Stable storage for long service life
- High, permissible drive speed
- Favorable power-to-weight ratio – compact dimensions
- Low noise
- Excellent suction characteristics
- Electro-hydraulic pressure control
- Short response times

TH-A10VNO ___ (01) ___ (02) / 5x (03) ___ (04) - V (05) ___ (06) ___ (07) ___ (08) ___ (09)

Size (NG)

01	Geometric displacement, see table of values on page 7	28	45	63	85

Control device

02	Pressure control	hydraulic				●	●	●	●	**DR**
	with flow control	hydraulic	X-T open			●	●	●	●	**DRF**
			X-T plugged	with flushing function		●	●	●	●	**DRS**
				without flushing function		●	●	●	●	**DRSC**
	pressure cut-off	hydraulic	remotely operated			●	●	●	●	**DRG**
		electrical	negative control	*U* = 12 V		●	●	●	●	**ED71**
				U = 24 V		●	●	●	●	**ED72**

Series

03	Series 5, index 2	–	●	●	–	**52**
	Series 5, index 3	●	–	–	●	**53**

Direction of rotation

04	Viewed on drive shaft	clockwise	**R**
		counter-clockwise	**L**

Sealing material

05	FKM (fluor-caoutchouc)	**V**

Drive shaft

06	Splined shaft	Standard shaft	●	●	●	●	**S**
	ANSI B92.1a	similar to shaft "S" however for higher input torque	●	●	●	●	**R**

Mounting flanges

07	ISO 3019-1 (SAE)	2-hole	●	●	●	●	**C**
		4-hole	–	–	–	●	**D**

Working port

08	SAE flange port fastening thread, metric	rear	not for through drive	●	●	●	●	**11**
		at side, opposite	for through drive	●	●	●	●	**12**

Through drive (for fitting options)

09	Flange ISO 3019-1	Hub for splined shaft[1)]				
	diameter	diameter	**28**	**45**	**63**	**85**	
	without through drive		●	●	●	●	**N00**
	82-2 (A)	5/8 in 9T 16/32DP	●	●	●	●	**K01**
		3/4 in 11T 16/32DP	●	●	●	●	**K52**
	101-2 (B)	7/8 in 13T 16/32DP	–	●	●	●	**K68**
		1 in 15T 16/32DP	–	–	●	●	**K04**

TH-A10VG SERIES-REXROTH

TH-A10VG ___ ___ ___ ___ ___ ___ ___ / 10 ___ – N ___ C ___ ___ ___
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15

01 Size (NG)

Geometric displacement, see "Technical data"	18	28	45	63	

02 Control device

			18	28	45	63	
Proportional control hydraulic	pilot-pressure related, with inlet filtration in **P** and X_1/X_2		●	●	●	●	HD3
	mechanical servo		●	●	●	●	HW
Automatic control, speed related[1)]		U = 12 V	–	●	●	●	DA1
		U = 24 V	–	●	●	●	DA2
Hydraulic control	direct operated		●	●	●	●	DG
Proportional control, electric	with proportional solenoid with inlet filtration in **P** and X_1/X_2	U = 12 V	●	●	●	●	EP3
		U = 24 V	●	●	●	●	EP4
Two-point control, electric	with switching solenoid	U = 12 V	●	●	●	●	EZ1
		U = 24 V	●	●	●	●	EZ2
Electric control, direct operated two pressure reducing valves (FTDRE)		U = 12 V	–	●	●	–	ET3
		U = 24 V	–	●	●	–	ET4
Electric pressure controller, negative control, with 4/2 directional valve and one pressure reducing valve[1)]	de-energized, stroking chamber is controlled via X_1	U = 24 V	–	●	●	●	ED2
	de-energized, stroking chamber is controlled via X_2	U = 24 V	–	●	●	●	ED4

03 Pressure cut-off

	18	28	45	63	
Without pressure cut-off (without code)	●	●	●	●	
With pressure cut-off	–	●	●	●	D

04 Neutral position switch

	18	28	45	63	
Without neutral position switch (without code)	●	●	●	●	
Neutral position switch with DEUTSCH connector (only for HW control)	●	●	●	●	L

05 Mechanical stroke limiter[2)]

	18	28	45	63	
Without mechanical stroke limiter (without code)	●	●	●	●	
Mechanical stroke limiter, externally adjustable	●	●	●	●	M

06 Stroking chamber pressure port[2)]

	18	28	45	63	
Without stroking chamber pressure port X_3, X_4 (without code)	●	●	●	●	
Stroking chamber pressure port X_3, X_4	–	●	●	●	T

07 DA control valve for NG28 ... 63

		HD	HW	DG	DA	EP	EZ	ET	ED	
Without DA control valve		●	●	●	–	●	●	●	●	1
DA control valve, fixed setting		●	●	●	●	●	–	–	–	2
DA control valve, mechanically adjustable, with position lever	direction of actuation, counter-clockwise	●	●	●	●	●	–	–	–	3L
	direction of actuation, clockwise	●	●	●	●	●	–	–	–	3R
DA control valve, fixed setting, ports for pilot control device		●	●	–	●	●	–	–	–	7
DA control valve, fixed setting, and hydraulic inch valve mounted, control with mineral oil		–	–	–	●	–	–	–	–	8

TECHYDRO PISTON PUMP

T-A10VG SERIES-REXROTH

TH-A10VG ___ ___ ___ ___ ___ ___ ___ / 10 ___ – N ___ C ___ ___ ___
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15

08 Series

Series 1, index 0	10

09 Direction of rotation

		18	28	45	63	
Viewed on drive shaft	clockwise	●	●	●	●	R
	counter-clockwise	●	●	●	●	L

10 Sealing material

	18	28	45	63	
NBR (nitrile rubber), shaft seal made of FKM (fluoroelastomer)	●	●	●	●	N

11 Drive shaft

		18	28	45	63	
Splined shaft ANSI B92.1a–1976	for single pump	●	●	●	●	S
	for combination pump	–	●	●	●	T

12 Mounting flange

		18	28	45	63	
SAE J744	2-hole	●	●	●	●	C

13 Working port

Port thread: Metric with profile sealing ring sealing according to DIN 3852 Fastening thread at the SAE working port and through drive: Metric according to DIN 13		18	28	45	63	
SAE working port **A** and **B**, same side left	suction port **S** bottom	–	●	●	●	10
SAE working port **A** and **B**, same side right	suction port **S** at top (externally piped up, except for DG)	–	●	●	●	13
Port and working port thread: Metric with profile sealing ring sealing according to DIN 3852 Fastening thread at the through drive: Metric according to DIN 13		18	28	45	63	
Threaded port **A** and **B**, same side right	suction port **S** bottom	●	–	–	–	16

14 Boost pump

		18	28	45	63	
Without integrated boost pump	without through drive	●	●	●	●	N
	with through drive	●	●	●	●	K
Integrated boost pump	with and without through drive	●	●	●	●	F

15 Through drive[3)]

			18	28	45	63	
Without through drive, only for version N and F (position 16)			●	●	●	●	00
Flange SAE J744	Hub for splined shaft[4)]						
82-2 (A)	5/8 in	9T 16/32DP	●	●	●	●	01
	3/4 in	11T 16/32DP	–	●	●	●	52
101-2 (B)	7/8 in	13T 16/32DP	●	●	●	●	02
	1 in	15T 16/32DP	–	●	●	●	04
127-2 (C)	1 1/4 in	14T 12/24DP	–	–	–	●	07

TH-A4VS SERIES-REXROTH

TH-A4VSO 40 DR 10 R P K D 63 N00
01 02 03 04 05 06 07 08 09

01 Displacement & Flange

40 = (2.44 IN³), C4 / 125 **180** = (10.98 IN³), C4 / 160
71 = (4.33 IN³), C4 / 140 **250** = (15.26 IN³), E4 / 224
125 = (7.63 IN³), C4 / 160 **355** = (21.66 IN³), E4 / 224

02 Control Options

DR = Pressure **DFR** = Pressure and Flow
DP = Parallel Control **LR2** = Hyperbolic HP Curve
DRG = Flow

03 Series

10 = Size 40 & 71
30 = Size 125-355

04 Rotation (Viewed from shaft end)

R = Clockwise
L = Counterclockwise

05 Seals

P = Buna with Viton Shaft Seal
V = Viton

06 Shaft Options

		40	71	125	180	250	355
K	SAE Keyed	1.25"	1.50"	1.75"	2.00"	2.00"	2.75"
S	SAE Splined	14T	17T	13T	15T	15T	15T
P	Metric Keyed	32	40	50	50	60	70
Z	Metric Splined	14T	18T	24T	24T	28T	22T

Max. Operating Pressure
5000 psi (350 bar) Nominal 5800 psi (400 bar) Peak Pressure
*** Call us for series that are not listed.**

07 Mounting Flange / Pilot

B = Metric 4 Bolt
D = SAE 4 Bolt

10 Port Connections on Side

13 = 4 Bolt Flange Metric Bolts
63 = 4 Bolt Flange UNC Bolts
75 = 4 Bolt Flange UNC Bolts with 2nd Pressure Port

11 Through Drive

N00 = Non-Thru
K** = Ready to Mount Pump
U** = Capped Universal Thru Drive Requires Adapter

*FOR ALL TECHNICAL SPECIFICATION OR DRAWINGS PLEASE CONTACT OUR TEAM OR EMAIL US : **SALES@TECHYDRO.COM.CN***

TECHYDRO

TH-A4VG SERIES-REXROTH

TH-A4VG _ _ D _ _ _ _ / 32 _ - N _ _ _ _ _
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15

01 Size

≈ Displacement Vg max in cm³	28, 40, 56, 71, 90, 125, 180

02 Control device

			28	40	56	71	90	125	180	
Without control module			●	●	●	●	●	●	●	NV
Proportional control hydraulic	pilot-pressure related, with inlet filtration in P		●	●	●	●	●	●	●	HD3
	mechanical servo		●	●	●	●	●	●	●	HW
Automatic control, speed related		U = 12 V	●	●	●	●	●	●	●	DA1
		U = 24 V	●	●	●	●	●	●	●	DA2
Hydraulic control, direct operated			●	●	●	●	●	●	●	DG
Proportional control electric	with proportional solenoid with inlet filtration in	U = 12 V	●	●	●	●	●	●	●	EP3
		U = 24 V	●	●	●	●	●	●	●	EP4
Two-point control, electric	with switching solenoid	U = 12 V	●	●	●	●	●	●	●	EZ1
		U = 24 V	●	●	●	●	●	●	●	EZ2
Electric control, direct operated two pressure reducing valves (FTDRE)		U = 12 V	●	●	–	–	–	–	–	ET3
		U = 24 V	●	●	–	–	–	–	–	ET4
Electric control, direct operated two pressure reducing valves (DRE5)		U = 12 V	–	–	–	–	–	●	–	ET7
		U = 24 V	–	–	–	–	–	●	–	ET8

03 Pressure cut-off

	28	40	56	71	90	125	180	
Without pressure cut-off	●	●	–	–	–	●	–	
Pressure cut-off	●	●	●	●	●	●	●	D

04 Neutral position switch

	28	40	56	71	90	125	180	
Without neutral position switch (without code)	●	●	●	●	●	●	●	
Neutral position switch (only for HW control)	●	●	●	●	●	●	●	L

05 Mechanical stroke limiter

	28	40	56	71	90	125	180	
Without mechanical stroke limiter (without code)	●	●	●	●	●	●	●	
Mechanical stroke limiter, externally adjustable	●	●	●	●	●	●	●	M

06 Stroking chamber pressure port

	28	40	56	71	90	125	180	
Without stroking chamber pressure port X3, X4 (without code)	●	●	●	●	●	●	●	
Stroking chamber pressure port X3, X4	●	●	●	●	●	●	●	T

07 DA control valve

		NV	HD	HW	DG	DA	EP	EZ	ET	BT	
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 hydraulic inch valve mounted, control with hydraulic fluid, mineral oil-based		–	–	–	–	●	–	–	–	–	8

08 Series

Series 3, index 2	32

09 Direction of rotation (Viewed on drive shaft)

	28	40	56	71	90	125	180	
clockwise	●	●	●	●	●	●	●	R
counter-clockwise	●	●	●	●	●	●	●	L

10 Sealing material

	28	40	56	71	90	125	180	
Without neutral position switch (without code)	●	●	●	●	●	●	●	N

TH-A4VG SERIES-REXROTH

TH-A4VG _ _ D _ _ _ _ /32 _ - N _ _ _ _ _

01 02 03 04 05 06 07 08 09 10 11 12 13 14 15

Drive shaft

			28	40	56	71	90	125	180	
11	Splined shaft DIN 5480	for single pump	●	●	●	●	●	●	●	Z
		for combination pump – 1st pump	–	●	●	●	●	●	–	A
	Splined shaft ANSI B92.1a	for single pump	●	●	●	●	●	●	●	S
		for combination pump – 1st pump	–	–	●	●	●	●	●	T
		only for combination pump – 2nd pump	–	●	–	–	●	–	–	U

Mounting flange

			28	40	56	71	90	125	180	
12	SAE J744	2-hole	●	●	●	–	–	–	–	C
		4-hole	–	–	–	–	–	–	●	D
		2+4-hole	–	–	–	●	●	●	–	F

Working port (port plate)

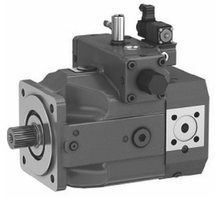
13			28	40	56	71	90	125	180	
	Port thread: Metric with profile sealing ring seal based on DIN 3852 Fastening thread at the SAE working port and through drive: Metric according to DIN 13									
	SAE working port A and B, top and bottom	suction port S bottom	–	●	●	●	●	●	●	02
	SAE working port A and B, top and bottom	suction port S at top	–	●	●	○	○	○	○	03
	SAE working port A and B, same side right	suction port S bottom	●	–	–	–	–	–	–	10
	SAE working port A and B, same side left	suction port S bottom	–	–	–	●	○	●	–	
	SAE working port A and B, same side right	suction port S at top	–	–	–	○	○	○	–	13
	SAE working port A and B, same side left	suction port S at top	●	–	●	–	–	–	–	
	Port thread: Metric with O-ring seal based on ISO 6149 Fastening thread at the SAE working port and through drive: Metric according to DIN 13									
	SAE working port A and B, top and bottom	suction port S bottom	–	●	–	–	–	●	–	22
	SAE working port A and B, same side right	suction port S bottom	●	–	–	–	–	–	–	30

Boost pump

14			28	40	56	71	90	125	180	
	Without integrated boost pump	without through drive	●	●	●	●	●	●	●	N
		with through drive	●	●	●	●	●	●	●	K
	Integrated boost pump	with and without through drive	●	●	●	●	●	●	●	F

Through drive

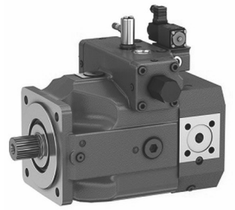
15				28	40	56	71	90	125	180	
	Without through drive, only for version N and F (position 16)			●	●	●	●	●	●	●	00
	Flange SAE J744	Hub for splined shaft									
	82-2 (A)	5/8 in	9T 16/32DP	●	●	●	●	●	●	●	01
		3/4 in	11T 16/32DP	–	●	●	●	–	–	●	52
	101-2 (B)	7/8 in	13T 16/32DP	●	●	●	●	●	●	●	02
		1 in	15T 16/32DP	●	●	●	●	●	●	●	04
	127-2 (C)	1 in	15T 16/32DP	–	●	–	–	–	–	–	09
	127-2 (C)	1 1/4 in	14T 12/24DP	–	–	●	●	–	–	●	07
	127-2/4 (C)			–	–	–	–	●	●	–	
	152-2/4 (D)	W35	2×30×16×9g	–	–	–	–	●	–	–	73
		1 3/4 in	13T 8/16DP	–	–	–	–	–	●	●	69
	165-4 (E)	1 3/4 in	13T 8/16DP	–	–	–	–	–	–	●	72



TH-A4VSG SERIES-REXROTH -

TH-A4VSG 250 DR / 30 R P P B 10 N00

01 02 03 04 05 06 07 08 09



01 Operation model
Pump, closed circuit

02 Size
displacement 40, 71, 125, 180, 250, 355, 500, 750, 1000 (cc/rev)·

03 Control Options
DR = Constant pressure control
LR = Const. Power control with hyperbolic curve
MA = Manual control
EO = Hydraulic control, with proportional valve
HD = Hydraulic control, pilot pressure dependent

04 Series
10, 22, 30

05 Direction of rotation (Viewed on shaft end)
R = Right **L** = Left

06 Seals
P = NBR (Nitrile rubber to DIN ISO 1629) with shaft seal FPM
V = FPM (Fluoride rubber to DIN ISO 1629)

07 Shaft end
P = Metric Parallel with key to DIN 6885
P = Metric splined shaft per DIN 5480

08 Mounting flange
10 = ISO 4-bolt

Port connections
10 = Port A,B: SAE on the side (same side), metric mounting threads

09 Through drive
N00 = Without auxiliary pump, without through drive
K31 = ISO 125, 4-hole, Splined shaft 32x2x30x14x9g, A4VSO/H/G 40
K33 = ISO 140, 4-hole, Splined shaft 40x2x30x18x9g, A4VSO/H/G 71
K34 = ISO 160, 4-hole, Splined shaft 50x2x30x24x9g, A4VSO/H/G 125
K34 = ISO 160, 4-hole, Splined shaft 50x2x30x24x9g, A4VSO/G 180
K35 = ISO 224, 4-hole Splined shaft 60x2x30x28x9g, A4VSO/H/G 250
K99 = IWith through drive, without hub or intermediate flange, with cover closed

Valves
0 = Without valve block **9** = Valve block SDVB mounted

Filtration
N = Without filter **W** = Filter in boost circuit, mounted

TH-A7V SERIES-REXROTH

TH-A7V 55 LV 2.0 L Z F 0 0

01 02 03 04 05 06 07 08

01 Size
Displacement Vgmin.- Vgmax. ml/rev
20,28,40,55,58,80,78,107,117,160,250,355

02 Control devices
LV = Constant horsepower control **DR** = Constant pressure control
EL = Electric control EL Splined shaft DIN 5480 Z (with proportional valve)
HD = Hydraulic control HD pressure related
MA = Manual control MA Right (clockwise) R (with handwheel)
SC = Brake control **NC** = Numerical control

03 Series
2.0, 5.1

04 Direction of rotation (Viewed on shaft end)
R = Clockwise **L** = Counter Clockwise

05 Shaft end
Z = Splined shaft DIN 5480
S = Splined shaft GB3478.1-83
P = Parallel keyed shaft GB1096-79

06 Pipe connections
F = Pressure and suction ports SAE-flanges, on side
G = Pressure and suction ports thread connection

07 Stroke limiter
O = None **M** = Mechanically adjustable (for LV and DR)

08 Auxiliary equipment
O = None
D = With pressure cut-off built-on for LV, EL and HD
F = Constant pressure control remote controlled order sequence valve and subplate separately)

TH-A11V SERIES-REXROTH

TH-A11V O / 1 _ - N _ _ _ _

01 02 03 04 05 06 07 08 09 10

Size

01

40, 60, 75, 95, 130, 145, 190, 260	≈ Displacement Vg max in cm³

Control unit

02

				40	60	75	95	130	145	190	260	
Power control				●	●	●	●	●	●	●	●	LR
with override	cross sensing		negative	●	●	●	●	●	●	●	●	LR .C
	high-pressure related		negative	●	●	●	●	●	●	●	●	LR3
	pilot-pressure related		negative	●	●	●	●	●	●	●	●	LG1
			positive	●	●	●	●	●	●	●	●	LG2
	electric	U = 12 V	negative	❍	❍	❍	●	●	●	●	●	LE1
		U = 24 V	negative	❍	●	●	●	●	●	●	●	LE2
with pressure cut-off				●	●	●	●	●	●	●	●	L . D. .
	hydraulic, 2-stage			●	●	●	●	●	●	●	●	L . E. .
	hydraulic, remote controlled			●	●	●	●	●	●	●	●	L . . G.
with load sensing				●	●	●	●	●	●	●	●	L . . .S
	electric, prop. override, 24 V			❍	❍	❍	●	●	●	●	●	L . . .S2
	hydraulic, prop. override			❍	❍	❍	●	●	●	●	●	L . . .S5
with stroke limiter	negative characteristic		Δp = 25 bar	●	●	●	●	●	●	●	●	L . . .H1
			Δp = 15 bar	●	●	●	●	●	●	●	●	L . . .H5
	positive characteristic		Δp = 25 bar	●	●	●	●	●	●	●	●	L . . .H2
			Δp = 10 bar	●	●	●	●	●	●	●	●	L . . .H6
			U = 12 V	●	●	●	●	●	●	●	●	L . . .U1
			U = 24 V	●	●	●	●	●	●	●	●	L . . .U2
Pressure control				●	●	●	●	●	●	●	●	DR
	with load sensing			●	●	●	●	●	●	●	●	DRS
	remote controlled			●	●	●	●	●	●	●	●	DRG
	for parallel operation			●	●	●	●	●	●	●	●	DRL
Hydraulic control, pilot-pressure related			Δp = 10 bar	●	●	●	●	●	●	●	●	HD1
	(positive characteristic)		Δp = 15 bar	●	●	●	●	●	●	●	●	HD2
	with pressure cut-off			●	●	●	●	●	●	●	●	D
	with pressure cut-off, remote controlled			❍	●	❍	❍	❍	❍	●	●	G
Electric control, with proportional solenoid			U = 12 V	●	●	●	●	●	●	●	●	EP1
	(positive characteristic)		U = 24 V	●	●	●	●	●	●	●	●	EP2
	with pressure cut-off			●	●	●	●	●	●	●	●	D
	with pressure cut-off, remote controlled			●	●	●	●	●	●	●	●	G

Series

03

	1

Index

04

Size 40 ... 130	0
Size 145 ... 260	1

Direction of rotation

05

Viewed from shaft end	clockwise	R
	counter-clockwise	L

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TECHYDRO PISTON PUMP

TH-A11V SERIES-REXROTH

TH-A11V O / 1 _ - N _ _ _ _

01 02 03 04 05 06 07 08 09 10

Seals

06

		40	60	75	95	130	145	190	260	
NBR (nitrile-caoutchouc), shaft seal ring in FKM (fluor-caoutchouc)		●	●	●	●	●	●	●	●	N

Shaft end

07

		40	60	75	95	130	145	190	260	
Splined shaft DIN 5480 for single and combination pump		●	●	●	●	●	●	●	●	Z
Parallel keyed shaft DIN 6885		●	●	●	●	●	●	●	●	P
Splined shaft ANSI B92.1a–1976	for single pump	●	●	●	●	●	●	●	●	S
	for combination pump	●	●	●	–1)	–1)	–1)	●	●	T

Mounting flange

08

	40	60	75	95	130	145	190	260	
SAE J744 – 2-hole	●	●	–	–	–	–	–	–	C
SAE J744 – 4-hole	–	–	●	●	●	●	●	●	D
SAE J617 (SAE 3)	–	–	–	●	●	●	●	–	G

Service line ports

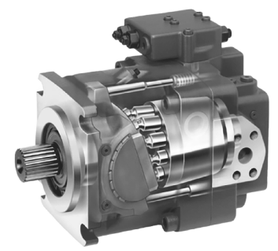
09

	40	60	75	95	130	145	190	260	
Pressure and suction port SAE, at side, opposite side (with metric fastening threads)	●	●	●	●	●	●	●	●	12

Service line ports

10

Flange SAE J744		Coupler for splined shaft			40	60	75	95	130	145	190	260	
-		-			●	●	●	●	●	●	●	●	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	2x30x16x9g		●	●	●	●	●	●	●	●	K79
127-2	(C)	1 1/4in	14T 12/24DP	(C)	–	●	●	●	●	●	●	●	K07
		1 1/2in	17T 12/24DP	(C-C)	–	–	–	●	●	●	●	●	K24
		W30	2x30x14x9g		–	●	●	●	●	●	●	●	K80
		W35	2x30x16x9g		–	●	●	●	●	●	●	●	K61
152-4	(D)	1 1/4in	14T 12/24DP	(C)	–	–	●	●	●	●	●	●	K86
		1 1/3in	13T 8/16DP	(D)	–	–	–	–	●	●	●	●	K17
		W40	2x30x18x9g		–	–	●	●	●	●	●	●	K81
		W45	2x30x21x9g		–	–	–	●	●	●	●	●	K82
		W50	2x30x24x9g		–	–	–	–	●	●	●	●	K83
165-4	(E)	1 3/4in	13T 8/16DP	(D)	–	–	–	–	–	–	●	●	K72
		W50	2x30x24x9g		–	–	–	–	–	–	●	●	K84
		W60	2x30x28x9g		–	–	–	–	–	–	–	●	K67



TH-A4FO SERIES-REXROTH

TH-A4F O ___ / ___ ___ - ___ ___ ___ ___ ___
01 02 03 04 05 06 07 08 09 10

01 Axial piston unit

Swashplate design, fixed displacement	T-A4F

02 Operating mode

Pump, open circuit	O

03 Size (NG)

	022	028	071	125	180	250	500
Geometric displacement, see, Technical data							

04 Series

	022, 028	071	125 to 500	
Series 1, index 0	–	●	–	10
Series 3, index 0	–	–	●	30
Series 3, index 2	●	–	–	32

05 Direction of rotation

Viewed on drive shaft	clockwise	R
	counter-clockwise	L

06 Sealing material

	022, 028	071 to 500	
NBR (nitrile rubber), shaft seal in FKM (fluoroelastomer)	●	–	N
	–	●	P
FKM (fluoroelastomer)	–	●	V

07 Drive shaft (permissible input torque)

	022	028	071	125	180	250	500	
Splined shaft ANSI B92.1a	●	●	–	–	–	–	–	S
Splined shaft DIN 5480	–	–	●	●	●	●	●	Z
Parallel keyed shaft DIN 6885	–	–	●	●	●	●	●	P

08 Mounting flange

	022	028	071	125	180	250	500	
SAE J744, 2-hole	●	●	–	–	–	–	–	C
ISO 3019, 4-hole	–	–	●	●	●	●	–	B
ISO 3019, 8-hole	–	–	–	–	–	–	●	H

09 Working port[1)]

	022, 028	071 to 500	
SAE pressure and suction port, at side, opposite	●	–	12
SAE pressure and suction port, at side, offset by 90° 2nd pressure port B1 opposite B (plugged with flange plate on delivery)	–	●	25

TECHYDRO PISTON PUMP

TH-A4FO SERIES-REXROTH

TH-A4F O ___ / ___ ___ - ___ ___ ___ ___ ___
01 02 03 04 05 06 07 08 09 10

10 Through drive (for attachment options)

		022	028	071	125	180	250	500	
Without through drive		●	●	●	●	●	●	●	N00
With through drive for mounting an axial piston unit or gear pump		●	●	●	–	–	–	●	K...
Universal through drive (can be modified)		–	–	–	●	●	●	–	U...
Flange SAE J744	Hub for splined shaft SAE J744								
82-2 (A)	5/8 in (16-4)	●	●	●	●	●	●	●	...01
101-2 (B)	7/8 in (22-4)	●	●	–	–	–	–	–	...02
101-2 (B)	7/8 in (22-4)	–	–	●	●	●	●	○	...68
Flange ISO 3019-2 (metric)	Hub for splined shaft SAE J744								
80, 2-hole	3/4 in (19-4)	–	–	●	●	●	●	○	...B2
100, 2-hole	7/8 in (22-4)	–	–	●	●	●	●	○	...B3
100, 2-hole	1 in (25-4)	–	–	●	●	●	●	○	...B4
125, 2-hole	1 1/4 in (32-4)	–	–	●	●	●	●	○	...B5
125, 2-hole	1 1/2 in (38-4)	–	–	–	●	●	●	○	...B6
180, 4-hole	1 3/4 in (44-4)	–	–	–	–	●	●	●	...B7
Flange ISO 3019-2 (metric)	Hub for splined shaft DIN 5480								
125, 4-hole	W32×2×14×9g	–	–	●	●	●	●	○	...31
140, 4-hole	W40×2×18×9g	–	–	●	●	●	●	○	...33
160, 4-hole	W50×2×24×9g	–	–	–	●	●	●	●	...34
224, 4-hole	W60×2×28×9g	–	–	–	–	–	●	●	...35
315, 8-hole	W80×3×25×9g	–	–	–	–	–	–	●	...43
With through-drive shaft, without hub, without intermediate flange, closed with cover		–	–	●	●	●	●	●	...99

● = Available ○ = On request – = Not available

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TH-A8VO SERIES-REXROTH

TH-A8VO __ __ / __ R 1 – N Z __ 05 __
(01) (02) (03) (04) (05) (06) (07) (08) (09) (10)

(03) Series

	55	80	107	140	200	
Series 6; Index 1, 3	●	–	–	–	–	61
	–	●	●	●	●	63

(04) Direction of rotation

viewed from shaft end: clockwise	R

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

i = 1	1

(06) Seals

NBR (nitrile-caoutchouc), shaft seal ring in FKM (fluor-caoutchouc)	N

(07) Shaft end

Splined shaft, DIN 5480	Z

(08) Mounting flange

	55	80	107	140	200[1]	
To fit flywheel case (conforming to SAE J617) of internal combustion engine (hole diameter for fixing ø11 mm)	●	●	●	●	–	G
	–	–	–	–	●	N

[1]) Hole diam. 11 mm for new projects only (previous types with short code G and hole diam. 14 mm)

(09) Service line port

SAE flange ports A1 and A2 at side, opposite (metric fixing thread) SAE flange port S at rear (metric fixing thread)	05

(10) Auxiliary pump

		55	80	107	140	200	
without integrated auxiliary pump	without power take-off (PTO)	●	●	●	●	●	K00
	with power take-off (PTO)	●	●	●	●	●	K...
with integrated auxiliary pump,	without power take-off (PTO)	●	●	●	●	●	F00
	with power take-off (PTO)	●	●	●	●	●	F...

Power take-off [1]) [2])

Flange SAE J744 [3])	Hub for splined shaft [4])				55	80	107	140	200	
82-2 (A)	5/8in	9T	16/32DP	(A)	●	●	●	●	●	...01
101-2 (B)	7/8in	13T	16/32DP	(B)	●	●	●	●	●	...02
	1in	15T	16/32DP	(B-B)	●	●	●	●	●	...04
127-2 (C)	1 1/4in	14T	12/24DP	(C)	❍	●	●	●	●	...07
152-4 (D)	1 1/4in	14T	12/24DP	(C)	–	–	–	❍	●	...86
	1 3/4in	13T	8/16DP	(D)	–	–	–	●	●	...17

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TECHYDRO PISTON PUMP

TH-A15V SERIES-REXROTH

TH-A15VO __ __ __ __ __ __ __ __ / 11 __ __ V __ __ __ __
(01) (02) (03) (04) (05) (06) (07) (08) (09) (10) (11) (12) (13) (14) (15) (16)

(01) Size

Geometric displacement	110, 145, 175, 210, 280

(02) Swiveling range

			110	145	175	210	280	
One-sided swiveling	Vg max: + 50% to + 100%	Vg min: - 5% to + 30%	○	●	●	●	●	
Two-sided swiveling	Vg max: + 50% to + 100%	Vg min: - 100% to - 50%	○	●	●	●	●	M

(03) Position 05, 06, 07 with the relevant control axis combination option, controller group a) to e) is described below

05	06	07
a) **Power controller** Not for swiveling range "M"	No other controller, without code	
	b) Pressure controller	No other controller, without code
		c) Stroke control
		d) Override and unloading
		e) Load sensing
	c) Stroke control	No other controller, without code
		e) Load sensing
	e) Load sensing	No other controller, without code
b) **Pressure controller**	No other controller, without code	
	b) Pressure controller	No other controller, without code
		d) Override and unloading
		e) Load sensing
	e) Load sensing	No other controller, without code
c) **Stroke control** Not for swiveling range "M"	No other controller, without code	
	b) Pressure controller	No other controller, without code
		d) Override and unloading
		e) Load sensing
	e) Load sensing	No other controller, without code

Control devices: Controller group a)

(04)

				110	145	175	210	280	
Power controller	fixed setting			○	●	●	●	●	LR
	electric-proportional override	negative control	U = 24 V	○	●	●	●	●	L4
Summation power controller	hydraulic-proportional override, high pressure	negative control	with stop	○	●	●	●	●	CR
			without stop	○	●	●	●	●	PR

Controller group b)

(05)

			110	145	175	210	280	
Without additional controller (without code)			○	●	●	●	●	
Pressure controller with oneside swiveling	fixed setting		○	●	●	●	●	DR
	hydraulic remote controlled	positive control	○	●	●	●	●	DG
	for parallel operation	positive control	○	●	●	●	●	DP

Controller group c)

				110	145	175	210	280	
Without additional controller (without code)				○	●	●	●	●	
Stroke control	electric-proportional	positive control	U = 24 V	○	●	●	●	●	E2
	electric, two-point	positive control	U = 24 V	○	●	●	●	●	E6
	hydraulic-proportional,pilot pressure	negative control		○	●	●	●	●	H3

Controller group c)

			110	145	175	210	280	
Stroke control	Without additional controller (without code)	positive control	○	●	●	●	●	H4
		negative control	○	●	●	●	●	H5
		positive control	○	●	●	●	●	H6

TH-A15V SERIES-REXROTH

TH-A15VO — — — — — — — — / 11 — — V — — — — —

01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16

Controller group d)

				110	145	175	210	280	
Without additional controller (without code)				○	●	●	●	●	
Electric directional valve and PRV mounted	only in combination with pressure controller	De-energized standby	U = 24 V	○	●	●	●	●	V2
Override electric-proportional	with integrated pilot control valve and only in combination with pressure controller	positive control	U = 24 V	○	●	●	●	●	T6
		negative control	U = 24 V	○	●	●	●	●	T8

Controller group e)

		110	145	175	210	280	
Without additional controller (without code)		○	●	●	●	●	
Load-sensing, pump pressure, internal	fixed setting	○	●	●	●	●	S0

06 Depressurized basic position and external control pressure supply

	110	145	175	210	280	
Basic position maximum swivel angle (Vg max)						
Without external control pressure supply (standard for power and pressure controllers)	○	●	●	●	●	A
With external control pressure supply (integrated shuttle valve, standard for negative stroke control)	○	●	●	●	●	B
Basic position minimum swivel angle (Vg min)						
With external control pressure supply (integrated shuttle valve, standard for positive stroke control)	○	●	●	●	●	C

07 Connectors for solenoids

	110	145	175	210	280	
Without connector (without solenoid, only for hydraulic control)	○	●	●	●	●	0
HIRSCHMANN connector	○	●	●	●	●	H

08 Controller group d)

		110	145	175	210	280	
Without swivel angle sensor		○	●	●	●	●	0
Optical swivel angle indicator (only for A15VSO)		○	●	●	●	●	V
With electric swivel angle sensor (as per data sheet 95150)	Power supply 5 V DC	○	●	●	●	●	B
	Power supply 8 V – 32 V DC	○	●	●	●	●	K

09 Series

Series 1, Index 1	11

10 Version of port and fastening threads

Metric, all fastening threads according to DIN 13, all port threads with O-ring seal according to ISO 6149	M

11 Direction of rotation (Viewed on drive shaft)

	110	145	175	210	280	
clockwise	○	●	●	●	●	R
counter-clockwise	○	●	●	●	●	L

12 Sealing material

	110	145	175	210	280	
FKM (fluoroelastomer)	○	●	●	●	●	V

13 Mounting flange

		110	145	175	210	280	
SAE J744	152-4	○	●	–	–	–	D4
	165-4	–	–	●	●	●	E4

14 Drive shaft

		110	145	175	210	280	
Splined shaft DIN 5480	W45x2x21x9g	○	–	–	–	–	A1
	W50x2x24x9g	–	●	●	●	–	A2
	W60x2x28x9g	–	–	–	–	●	A4

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TECHYDRO PISTON PUMP

TH-A15V SERIES-REXROTH

TH-A15VO — — — — — — — — / 11 — — V — — — — —

01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16

15 Drive shaft

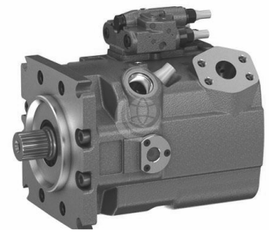
		110	145	175	210	280	
Parallel keyed shaft DIN 6885 (not for A15VLO)	ø45	○	–	–	–	–	B1
	ø50	–	●	●	●	–	B2
	ø60	–	–	–	–	●	B4

16 Rotary group version

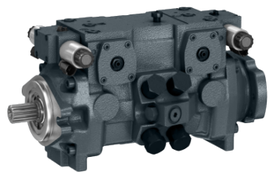
	110	145	175	210	280	
Standard version without charge pump	○	–	–	–	–	E
Efficiency and speed optimized(version with and without charge pump)	–	●	●	●	●	P

Through drives

Flange SAE J744		Flange SAE J744			110	145	175	210	280	
Diameter	Designation	Diameter		Designation						
82-2 (A)	A3	5/8 in	9T 16/32DP	S2	○	●	●	●	●	A3S2
101-2 (B)	B3	7/8 in	13T 16/32DP	S4	○	●	●	●	●	B3S4
		1 in	15T 16/32DP	S5	○	●	●	●	●	B3S5
127-2 (C)	C3	1 1/4 in	14T 12/24DP	S7	○	●	●	●	●	C3S7
		1 1/2 in	17T 12/24DP	S9	○	●	●	●	●	C3S9
152-4 (D)	D4	W45x2x21x9g		A1	○	●	●	●	●	D4A1
		W50x2x24x9g		A2	○	●	●	●	●	D4A2
165-4 (E)	E4	W50x2x24x9g		A2	–	–	●	●	●	E4A2
		W60x2x28x9g		A4	–	–	–	–	●	E4A4
Flange ISO 3019-2		Hub for splined shaft								
82-2 (A)	K3	3/4 in	11T 16/32DP	S3	○	●	●	●	●	K3S3
	K5				○	●	●	●	●	K5S3
100-2	L5	7/8 in	13T 16/32DP	S4	○	●	●	●	●	L5S4
125-4	M4	1 in	15T 16/32DP	S5	○	●	●	●	○	M4S5
		W32x2x14x9g		Z7	○	○	○	○	○	M4Z7
140-4	N4	W40x2x18g		Z9	○	○	○	○	●	N4Z9
160-4	P4	1 1/4 in	14T 12/24DP	S7	○	●	●	●	●	P4S7
180-4	R4	1 1/2 in	17T 12/24DP	S9	–	–	●	●	●	R4S9
		1 3/4 in	13T 8/16DP	T1	–	–	○	○	●	R4T1
Prepared for through drive, with pressure-proof plugged cover(see also data sheet 95581)					○	●	●	●	●	U000



TH-A22VG SERIES-REXROTH



Nominal pressure 380 bar
Maximum pressure 420 bar Closed circuit

TH-A22VG 045 / 40 A N B2 S7 3

01 02 03 04 05 06 07 / 08 09 10 11 12 13 14 15 16

01 Size (NG)

Geometric displacement, see technical data	045

02 Control device

Proportional control hydraulic mechanical servo, hexagon shaft with lever, free position[1)]	without neutral position switch	HW2
	with neutral position switch	HW8
Proportional control electric	U = 12 V DC	EP1
	U = 24 V DC	EP2
Hydraulic control, direct operated		HT1
Electric control, direct operated; two pressure reducing valves per circuit	U = 12 V DC	ET1
	U = 24 V DC	ET2

03 Connector for solenoids[2)]

Without connector (without solenoid, only for hydraulic control)	0
DEUTSCH – molded connector, 2-pin – without suppressor diode	P

04 Swivel angle sensor

Without swivel angle sensor	0
Electric swivel angle sensor mounted [3)]	R

05 Pilot pressure ports

	HW	HT	EP	ET	
Ports X_1 and X_2	●	–	●	●	1
Ports X_3 and X_4	–	●	–	–	3
Ports X_1, X_2 and X_3, X_4	●	–	●	●	4
Ports X_5 and X_6	–	●	–	–	5

06 Mechanical stroke limiter

Without mechanical stroke limiter	0
One-sided mechanical stroke limiter, externally adjustable, on opposite side to service line ports	F

07 DA control valve

	HW	HT	EP	ET	
Without DA control valve	●	●	●	●	0
DA control valve fixed setting	●	●	●	–	1

08 Series

10	Series 4, index 0	40

09 Configuration of ports and fastening threads

11	ANSI, port threads with O-ring seal according to ISO 11926	A

10 Direction of rotation

Viewed on drive shaft	clockwise	R
	counter-clockwise	L

11 Sealing material

NBR (nitrile-rubber), shaft seal in FKM (fluoroelastomer)	N

12 Mounting flange

SAE J744, 101-2	B2

13 Drive shaft (permissible input torque)

Splined shaft ANSI B92.1a, 1 1/4 in 14T 12/24DP	S7

14 Service line ports

Threaded ports A and B, left (viewed on drive shaft)	3

15 Boost pump[4)]

Without boost pump (standard)	U
Boost pump	F

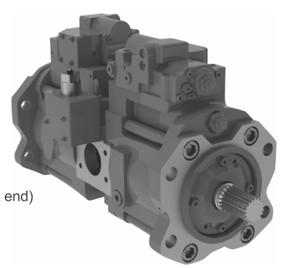
16 Through drive (mounting options)

Flange SAE J744			Hub for splined shaft[5)]			
Diameter	Mounting [6)]	Designation	Diameter		Designation	
101-2 (B)	⚯	B2	7/8 in	13T 16/32DP	S4	B2S4
			1 in	15T 16/32DP	S5	B2S5

TH-K3V SERIES-KAWASAKI

TH-K3V 280 DT H 100 R - 2N 01

01 02 03 04 05 06 07



01 Displacement
63 = 63cm³
112 = 112cm³
140 = 140cm³
280 = 280cm³

02
DT = Double pump (Tandem type)
DP = Double pump (Parallel type)
S = Single pump

03
- = Standard
H = With Centrifugal pump
P = With PTO

04 Desigh code

05 Direction of rotation
R = Clockwise
XXX = Counterclockwise(viewed from shaft end)

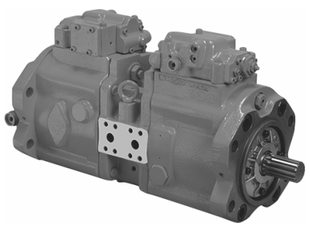
06 Regulator code

07 Design code of regulator

TH-K5V SERIES-KAWASAKI

TH-K5V 280 DT H 100 R - 9N 01

01 02 03 04 05 06 07



01 Displacement
80 = 80 cm³
140 = 140 cm³
200 = 200 cm³

02
DT = Double pump (Tandem type)
DP = Double pump (Parallel type)
S = Single pump

03
- = Standard
H = With Centrifugal pump
P = With PTO

04 Desigh code

05 Direction of rotation
R = Clockwise
L = Counterclockwise

06 Regulator code

07 Design code of regulator

TH-TA1919-VICKERS

TH-TA1919 V20 F L - 2 A R - 07 A D 6 H 21
01 02 03 04 05 06 07 08 09 10 11 12

01 Auxiliary Vane Pump

02 Vane Pump Cover Option (Omit if not required)
F – Flow control
P – Priority flow

03 Rotation Viewed From Shaft End
R – Right hand (clockwise)
L – Left hand (counterclockwise)

04 Input Shaft
2 – SAE B-B splined

05 Control Pintle Location Viewed From Shaft End With Drain Port Up

Code	Pump No. 1	Pump No. 2
A	Right hand side	Right hand side
B	Left hand side	Right hand side
C	Right hand side	Left hand side
D	Left hand side	Left hand side

06 Main Relief Valve
R – Relief valve
O – No relief valve

07 Vane Pump Ring Capacity at 1200 rpm
07 – 26 l/min (7 USgpm)
08 – 30 l/min (8 USgpm)
09 – 34 l/min (9 USgpm)
10 – 37 l/min (10 USgpm)
11 – 41 l/min (11 USgpm)
12 – 45 l/min (12 USgpm)
13 – 49 l/min (13 USgpm)

08 Vane Pump Inlet Position Viewed From Cover End
A – In line with case drain
C – 180°F opposite case drain

09 Position of Vane Pump Outlet, or Primary Outlet, Viewed From Cover End
A – Opposite inlet
B – 90°F counterclockwise from inlet
C – In line with inlet
D – 90°F clockwise from inlet

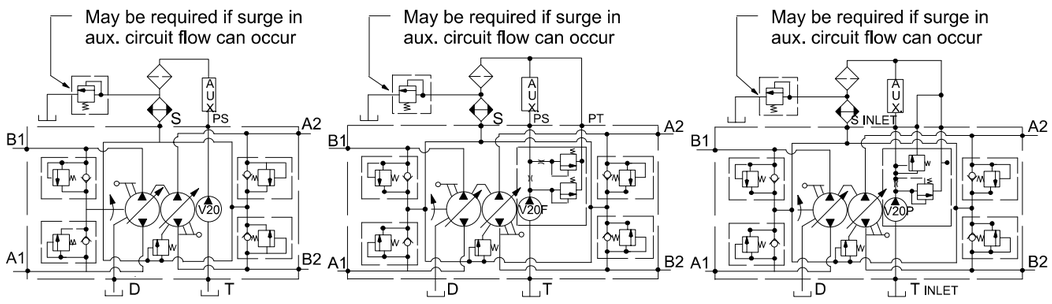
10 Flow Rate Through Orifice In "F" Cover
2, 4, 6, 8 or 10 USgpm

Flow Rate Through Orifice In "P" Cover
2, 2.5, 3, 4, 6 or 8 USgpm

11 Vane Pump Relief Valve Setting, "F" & "P" Cover
A – 17 bar (250 psi)
B – 35 bar (500 psi)
C – 51 bar (750 psi)
D – 70 bar (1000 psi)
E – 86 bar (1250 psi)
F – 100 bar (1500 psi)
G – 120 bar (1750 psi)
H – 140 bar (2000 psi)
J – 155 bar (2250 psi)
K – 175 bar (2500 psi)

12 Design Number

Circuit Diagrams



TH-TA1919V20 with Main Relief Valves

TH-TA1919V20F with Main Relief Valves

TH-TA1919V20P with Main Relief Valves

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TH-PVB/TH-PVE SERIES-VICKERS

TH-PVB 5 (F) R S (F) W Y 20 CG C * 12
01 02 03 04 05 06 07 08 09 10 11 12

01 Displacement
5 = 10.5 cc/rev (0.64 in³/r) **20** = 42.8 cc/rev (0.64 in³/r)
6 = 13.8 cc/rev (0.84 in³/r) **29** = 2.61 cc/rev (3.76 in³/r)
10 = 21.1 cc/rev (1.29 in³/r) **45** = 94.5 cc/rev (5.76 in³/r)
15 = 33.0 cc/rev (2.01 in³/r)

02 Mounting
F = Foot Bracket (Omit for flange mount)

03 Shaft Rotation (Viewed at shaft end)
R = Right Hand (clockwise)
L = Left Hand (counterclockwise)

04 Displacement Zone
S = One side of center (Pressure Compensated models only)
D = Both sides of center

05 Flanged Ports
20 = Side/Thru Flanged Ports
29 = Side/Thru Flanged Ports **45** = All Ports

06 Optional Features
W = Side Ports **X** = Side Ports - thru shaft

07 Shaft Type
CG = SAE models PVB5 through 15 only (Standard)

08 Pump Design Number
40 = 5 or 6 displacement
40 = 10 or 15 displacement
20 = 20 or 29 displacement

09 Control Options
C = Pressure Compensator Pressure adjustment range:17 to 210 bar (250 to 3000 psi)
CM = Pressure Compensator Pressure adjustment range:17 to 100 bar (250 to 1500 psi)
CG = Remotely adjustable pressure setting
CD = Electric dual range pressure
CVP = Pressure limiter load sensing
H = Handwheel
M = Lever

10 Optional Features
C = Adjustable Maximum Displacement Stop

11 Compensator Variations
= Dual-range (Electric control 115 volts-60 cycle)
DH = Dual-range (Hydraulic control)
*Omit if not needed

12 Control Design Number
*Note: For PVB6, 15 and 29 models, the user must ensure that the max. pressure setting never exceeds 140 or 100 bar (2000 or 1500 psi) dependent on the type of fluidbeing used.
*Please see PVB Engineering for more detailed model code.

TH-PVE 21 R 9 30 C10
01 02 03 04 05

01 Flow Rating @ 1800 rpm
PVE = Variable displacement pump

02 Shaft Rotation (Viewed at shaft end)
R = Right Hand (clockwise) **L** = Left Hand (counterclockwise)

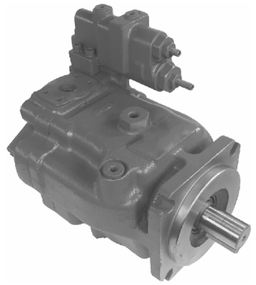
03 Input Shaft
1 = SAE BB 1" Keyed **2** = SAE BB 1" 15 Tooth Spline
9 = SAE B 7/8" Keyed

04 Pump Design Number
30 = Design SAE side ports
40 = Design SAE rear ports

05 Control Type & Design
C10 = Pressure compensated (PVE19, 250-3000 psi) (PVE21, 250-2700 psi)
CG10 = Remote control pressure compensator adjustable from 350-3000 psi using an external relief valve
CV10 = Load sensing (160 PSID) with pressure compensation PVE 19/21
CVP12 = Load sensing (350 PSID) with pressure compensation PVE 19/21

TH-PVH SERIES-VICKERS

TH-PVH	98	QI	C	R	A	F	2	S	10	C	25	V	31
	01	02	03	04	05	06	07	08	09	10	11	12	13



01 Max. Geometric Displacement
57 = 57.4 cm³/r (3.5 in³/r)
74 = 73.7 cm³/r (4.5 in³/r)
98 = 98.3 cm³/r (6.0 in³/r)
131 = 131.1 cm³/r (8.0 in³/r)

02 Design/Application
Blank = Design for mobile applications
QI = Quiet design for industrial applications 4000 psi
QP = Quiet power 2000 psi

03 Mounting Flange, Prime Mover End
C = SAE "C" 4-bolt type
C2 = 2/4 Bolt C mount
C3 = 4 Bolt C Vertical Mount

04 Shaft Rotation (Viewed at shaft end)
R = Right Hand (clockwise)
L = Left Hand (counterclockwise)

05 Configuration
Blank = Non-thru-drive (single pump)
A = Thru-drive pump with SAE "A" 2-bolt rear flange mount
B = Thru-drive pump with SAE "B" 2 and 4-bolt rear flange mount
C = Thru-drive pump with SAE "C" 2 and 4-bolt rear flange mount
S = Adjustable max. volume stop
(Non-thru drive and non-torquecontrol models only)

06 Main Ports
F = SAE 4-bolt flange ports

07 Shaft-End Type, at Prime Mover End
1 = SAE C straight keyed **2** = SAE C splined 14 tooth
3 = SAE CC splined 17 tooth **12** = SAE D splined 13 tooth
13 = SAE CC straight keyed **16** = SAE D straight keyed

08 Shaft Seal, Prime Mover End
S = Single, one way **D** = Double, two way

09 Pump Design Number
10 = With case to inlet check **11** = No case to inlet check

10 Pressure Compensator and Adjustment Range
C = 140-280 bar (2000-4000 psi) **CM** = 35-140 bar (500-2000 psi)
IC = CETOP 3 interface

11 Pressure Compensator Factory Setting in Tens of Bar
7 = Normal factory setting of 70 bar (1015 psi) for "CM" models
25 = Normal factory setting of 250 bar (3625 psi) for "C" models

12 Additional Control Functions
Blank = No additional controls **V** = Load sensing, 20 bar (290 psi)

13 Control Design Number
31 = C, CM, C**V, or IC controls

TECHYDRO PISTON PUMP

TH-PVQ SERIES-VICKERS

TH-PVQ	13	A2	R	SE	1	S	20	C*	D	S*
	01	02	03	04	05	06	07	08	09	10

01 Displacement
10 = 10.5 cc/rev (0.64 cir) 210 bar (3000 psi)
13 = 13.8 cc/rev (0.84 cir) 140 bar (2000 psi)
20 = 20 cc/rev (1.28 cir) 210 bar (3000 psi)
32 = 32 cc/rev (2.01 cir) 140 bar (2000 psi)
40 = 41 cc/rev (2.5 cir) 140 bar (3000 psi)
45 = 45.1 cc/rev (2.75 cir) 185 bar (2700 psi)

02 Mounting Flange
A2 = Flange SAE "A" (10/13)
B2 = SAE "B" 2-bolt (20/45)

03 Shaft Rotation (Viewed at shaft end)
R = Clockwise
L = Counterclockwise

04 Ports, Type and Location
SE = SAE O-ring rear port
SS = SAE O-ring side port

05 Shaft
1 = 3/4" Keyed
3 = 5/8"- 9T Splined

06 Seals
S = Buna N, standard
D = Fluorocarbon, optional

07 Pump Design Series
20 = (10/13/40/45)
21 = (20/21)

08 Control Type
C21-12 = Pressure Compensator
CM7-12 = Low Pressure Compensator
C21-12 = Load Sensing with bleed down orifice
CV**P13** = Load sensing without bleed orifice
CG30 = Pressure compensator modified for hydraulic remote control
CD21-21 = Electric dual range pressure

09 Control Option
Blank = Without adjustable Max. displacement stop (standard)
D = Max. adjustable displacement stop (optional)

10 Special Pump Option
S2 = Shaft up mounting

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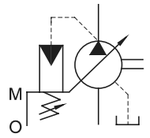
TH-AR-YUKEN

" TH-AR" Series Variable Displacement Piston Pumps-Single PumpPressure Compensator Type



Graphic Symbol

Specifications

Model Numbers	Geometric Displacement cm^3/rev (cu.in./rev)	Operating Pressure MPa (PSI)		Shaft Speed Range r/min.		Approx. Mass kg (lbs.)
		Rated	Intermittent*	Max.	Min.	
TH-AR16-FR01*-20/2080/20950	15.8 (.964)	16 (2320)		1800	600	9.8 (21.6)
TH-AR22-FR01*-20/2080/20950	22.2 (1.355)			1800	600	

★ When setting the pressure, make sure the full cut-off pressure never exceeds the maximum intermittent pressure.

Model Number Designation

TH-AR16	-F	R	01	B	S	-20	*
Series Number	Mounting	Direction of Rotation	Control Type	Pres. Adj. Range MPa (PSI)	Port Position	Design Number	Design Std.
TH-AR16 ($15.8\ cm^3$/rev)	**F:** Flange Mtg.	(Viewed from Shaft End) **R:** ★1 Clockwise (Normal)	**01:** Pressure Compensator Type	**B:** 1.2 - 7 {170 - 1020} **C:** 2.0 - 16 {290 - 2320}	**None:** Axial Port **S:** Side Port	**20**	Refer to ★2
TH-AR22 ($22.2\ cm^3$/rev)						**20**	

★2. Design Standards:
None..... Japanese Standard "JIS"
80..... European Design Standard
950..... N. American Design Standard

Pipe Flange Kits

Pipe flange kits are available.
When ordering, specify the kit number from the table below.

Pump Model Numbers	Name of Port	Pipe Flange Kit Numbers				
		Threaded Connection			Socket Welding	
		Japanese Standard "JIS"	European Design Standard	N. American Design Standard	Japanese Standard "JIS" European Design Standard	N. American Design Standard
TH-AR16-FR01 TH-AR22-FR01	Suction	F5-06-A-1021	F5-06-A-10801	F5-06-A-10950	F5-06-B-1021	F5-06-B-10901
	Discharge *	———	———	———	———	———

★ Discharge port is available only for the threaded connections.

Mounting Bracket Kits

Mounting bracket available on separate order.

Pump Model Numbers	Mtg. Bracket Kit Numbers	Approx. Mass kg (lbs.)
TH-AR16/AR22-FR01	LP-1A-10	2.2 (4.9)

Note: The mounting bracket kit consists of a mounting bracket, two hex. bolts and two plain washers.

TH-A16 SERIES-YUKEN

Model Number Designation

TH-A16	-F	-R	-01	-B	-S	-K	-32
Series Number	Mounting	Direction of Rotation	Control Type	Pres. Adj. Range MPa	Port Position	Shaft Extension	Design Number
TH-A16 ($15.8\ cm^3$/rev)	F: Flange Mtg. L: Foot Mtg.	(Viewed from Shaft End) R: Clockwise★2 (Normal)	01: Pressure Compensator Type	B: 1.2 - 7 C: 1.2 - 16 H: 1.2 - 21	None: Axial Port S: Side Port	K: Keyed Shaft	32
TH-A22 ($22.2\ cm^3$/rev)				B: 1.2 - 7 C: 1.2 - 16			32
TH-A37 ($36.9\ cm^3$/rev)				B: 1.2 - 7 C: 1.2 - 16 H: 1.2 - 21			32
TH-A56 ($56.2\ cm^3$/rev)							32

TH-A70	-F	R	01	B	S	-60
Series Number	Mounting	Direction of Rotation	Control Type	Pres. Adj. Range MPa	Port Position	Design Number
TH-A10 ($10.0\ cm^3$/rev)	F: Flange★1 Mtg.	(Viewed from Shaft End) R: Clockwise★2 (Normal)	01: Pressure Compensator Type	B: 1.2 - 7 C: 2.0 - 16 H: 2.0 - 21	—	12
TH-A70 ($70.0\ cm^3$/rev)	F: Flange Mtg. L: Foot Mtg.			B: 1.2 - 7 C: 1.5 - 16 H: 1.8 - 21 K: 2.0 - 28	S: Side Port	60
TH-A90 ($91.0\ cm^3$/rev)						60
TH-A100 ($100\ cm^3$/rev)						60
TH-A145 ($145\ cm^3$/rev)						60

★ 1. When A10 pump is used as the foot Mtg., order the Mtg. Bracket kit shown below separately.
Note: The mounting bracket kit consists of a mounting bracket, two hex. bolts and two plain washer.

Mtg. Bracket Kit Numbers	Approx. Mass kg
LP-1A-10	2.2

★ 2. Available to supply pump with anti-clockwise rotation (Except A100)

Pipe Flange Kits

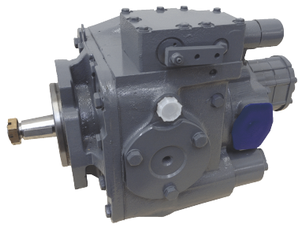
Pipe flange kits are available. When ordering, specify the kit number from the table below.

Pump Model Numbers	Name of Port	Pipe Flange Kit Numbers		
		Threaded Connection	Socket Welding★	Butt Welding
TH-A16-*-R-O1 TH-A22-*-R-O1	Suction	F5-06-A-10	F5-06-B-10	F5-06-C-10
	Discharge	F5-06-A-10	F5-06-B-10	F5-06-C-10
TH-A37-*-R-O1 TH-A56-*-R-O1	Suction	F5-10-A-10	F5-10-B-10	F5-10-C-10
	Discharge	F5-10-A-10	F5-10-B-10	F5-10-C-10
TH-A70-*-RO1	Suction	F5-12-A-10	F5-12-B-10	F5-12-C-10
	Discharge	F5-08-A-10	F5-08-B-10	F5-08-C-10
TH-A90-*-RO1 TH-A100-*-RO1 TH-A145-*-RO1	Suction	F5-16-A-10	F5-16-B-10	F5-16-C-10
	Discharge	F5-10-A-10	F5-10-B-10	F5-10-C-10

TH-PV SERIES-DANFOSS

TH-PV 20 AAA R A A B 31 B1 000

01 02 03 04 05 06 07 08 09



01 Displacement

Displacement cm^3/r (in^3/r)

20,21,22,23,24,25,26,27

02 Type of Control

AAA = Without mechanical-hydraulic servo valve, with top cover only
BBB = Without mechanical-hydraulic servo valve, with joining piece and cover
MH = Mechanical hydraulic servo valve
MC = Mechanical-hydraulic servo valve with a pressure override valve (POR)
HDC = Hydraulic Dsiplacement Control
HDP = Hydraulic Displacement Control with pressure override valve (POR)

03 Rotation

R = Clockwise CW
L = Counter-Clockwise CCW
V = Reversible

04 Shaft

A = 14t, 12/24 Pitch, Ø31.20 (1.23")
B = 19t, 16/32 Pitch, Ø31.75 (1.25")
C = 21t, 16/32 Pitch, Ø34.50 (1.36")
D = 23t, 16/32 Pitch, Ø37.68 (1.48")
E = 27t, 16/32 Pitch, Ø44.03 (1.73")
F = 40t, 16/32 Pitch, Ø64.66 (2.55")
G = 3t, 8/16 Pitch, Ø43.71 (1.72")
I = 20t, 16/32 Pitch, Ø32.91 (1.30")
J = Cone 1:8, SAE J501, Ø41.27 (1.62")
K = Cone 1:8, SAE J501, Ø31.75 (1.25")
L = Parallel with Key, Ø34.925 (1.38")
M = Parallel with Key, Ø34.925 (1.38")
P = 15t, 16/32 Pitch, Ø25.40 (1.00")
R = 13t, 16/32 Pitch, Ø21.80 (0.86")

05 Ports

A = SAE J518c, Code 62, Size 1", 6000psi 7/16"-14UNC-2A
B = SAE J518c, Code 61, Size 1", 5000psi 3/8"-16UNC-2A
C = ISO 6162, DN25, Type II, 40 MPa M12
D = SAE J518c, Code 62, Size 3/4", 6000psi 3/8"-16UNC-2B
E = SAE J518c, Code 61, Size 3/4", 5000psi 3/8"-16UNC-2B
F = ISO 6162, DN19, Type II, 40 MPa M10

06 Charge Gear Pump

B = 12.3 cm^3/r (0.75 in^3/r)
C = 18.0 cm^3/r (1.10 in^3/r)
D = 18.9 cm^3/r (1.15 in^3/r)
E = 32.8 cm^3/r (2.00 in^3/r)
F = 65.5 cm^3/r (4.00 in^3/r)
NN = Without Charge Pump

07 Pressure Setting of Valve in Manifold Assembly

13 = 1.3 MPa (1.3±0.05 MPa at 3.8 dm^3/min)
XX = Other
00 = Without Charge Pump
Other values according to mutual agreement, max 3.5 MPa

08 Orifice

A = Ø0.76 (0.030")
B = Ø0.91 (0.036")
C = Ø1.05 (0.041")
D = Ø1.36 (0.054")
E = Ø1.60 (0.063")
N = Without Orifice
1 = Orifice in channel "P"
2 = Orifice in channel "A", "B"
3 = Orifice in channel "P", "A", "B"
4 = Orifice in channel "A"
5 = Orifice in channel "B"
6 = Orifice in channel "P", "A"
7 = Orifice in channel "P", "B"
0 = Without Orifice

09 Design Code

000 = Standard
XXX = Special Production Number

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TECHYDRO

TH-PD SERIES PARKER

	Pump Series	Displacement	Type	Mounting & Ports	Shaft Options	Shaft Seal	Shaft Rotation	Application	Seal Material	Design Level	Controls	Additional Control Options	Port Orientation	Mechanical Displacement Adjustment	Case-to-Inlet Check Valve	Thru-Drive Mounting Pad & Coupling	Paint	Special Features
TH-PD	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17

01

Code	Displacement
075	75 cc/rev (4.58 in /rev)
100	100 cc/rev (6.41 in^3/rev)
140	140 cc/rev (8.85 in^3/rev)

02

Code	Type
P	Open circuit, Variable displacement

03

Code	Mounting/Ports
S	SAE - Inch Mount & Ports
A	SAE - Inch Mount, metric flange threads, BSPP threaded ports
M	ISO - Metric mount & metric ports
B	ISO - Metric mount & BSPP ports

04

Code	Shaft Options	Code	Shaft Options
01	SAE Spline	03	ISO/DIN Spline
02	SAE Key	04	ISO Key

05

Code	Shaft Seal
S	Single Shaft Seal

06

Code	Shaft Rotation
R	Clockwise Rotation
L	Counterclockwise rotation

07

Code	Application
S	Industrial

08

Code	Seal Material
5	Fluorocarbon Viton

09

Code	Design Level
A	Current Design Series

10

Code	Controls
C0	Pressure Limiter, 80-280 bar Adjustment Range
C1	Pressure Limiter, 20-80 bar Adjustment Range
L0	Load sensing, 10-30 bar ΔP and Pressure Limiter 80-280 bar
L1	Load sensing, 10-30 bar ΔP and Pressure Limiter 20-80 bar
RN	Pilot Operated Control with ISO-4401 (NG 6) Interface and Shipping Cover
RH	Pilot Operated Control with Vent Port
RM	Pilot Operated Pressure Limiter Control with Mechanical Adjustment and Vent Port
RE	Pilot Operated Pressure Limiter Control with Proportional Electronic Adjustment

11

Code	Additional Control Options
0	None

12

Code	Port Orientation
E	End Ports
S	Side Ports
T	Side Ports with Thru Drive

13

Code	Mechanical Displacement Adjustment
0	None
1	Adjustable Maximum Displacement (not available on thru-drive)
2	Adjustable Minimum Displacement (not available on thru-drive)
3	Adjustable Maximum & Minimum Displacement (not available on thru-drive)

14

Code	Case-to-Inlet Check Valve
0	No
1	Yes

15

Code	Thru-Drive Mounting Pad/Coupling
0	None (only valid for end or side ported)
A*	SAE 82-2 (A) & 16 (A) Coupling
H*	SAE 82-2 (A) & 19 (--) Coupling
B*	SAE 101-2 (B) & 22 (B) Coupling
Q*	SAE 101-2 (B) & 25 (B-B) Coupling
C*	SAE 127-4 (C) & 32 (C) Coupling
N**	SAE 127-4 (C) & 38 (C-C) Coupling
D***	SAE 152-4 (D) & 44 (D&E) Coupling
R*	ISO 80A2 & K20N coupling
S*	ISO 100A2 & K20N coupling
T*	ISO 100A2 & K25N coupling
V*	ISO 125B4 & K32N coupling
W**	ISO 125B4 & K40N coupling
X***	ISO 180B4 & K50N coupling

*Available on 075 thru 140 models.
** Available on 100 thru 140 models.
*** Available on 140 models.

16

Code	Paint
00	No Paint
PB	Black Paint

17

Code	Special Features
00	No Special Features
M2	Special Modification

TH-PV PARKER

Axial piston pump variable displacement high pressure version	Size and displacement	Rotation	Variation	Mounting code	Threads	Thru drive	2nd pump	Seals	Compensator	pump compensator Design series: *not required for order*	Compensator	Design series: *not required for order* Pump	Compensator
TH-PV	01	02	03	04	05	06	07	08	09	10	11	12	13

01

Code	Displacement	Code	Displacement
016	16 cm³/U	063	63 cm³/U
020	20 cm³/U	080	80 cm³/U
023	23 cm³/U	092	92 cm³/U
032	32 cm³/U	140	140 cm³/U
040	40 cm³/U	180	180 cm³/U
046	46 cm³/U	270	270 cm³/U

02

Code	Rotation [1]
R	clockwise
L	counter clockwise

[1] when looked on shaft

03

Code	Variation
1	standard
9	reduced displace ment adjusted [2]

[2] for order specify displace-ment

04

Code	Mounting Interface	Shaft
D	SAE ISO 3019/1	4-hole flange, cylindric, key
E		4-hole flange, splined, SAE
F[3]		4-hole flange, cylindric, key
G[3]		4-hole flange, splined, SAE
K	metr. ISO 3019/2	4-hole flange, cylindric, key
L		4-hole flange, splined, DIN 5480

[3] codes F and G only for PV140/180, see dimension sheet

05

Code	Port [4]	Threads[5]	Code	Port [4]	Threads[5]
1	BSPP	metric	7	ISO 6149	UNC
3	UNF	UNC	8	ISO 6149	metric[1]
4[6]	BSPP	metr, M14			

drain, gauge and flushing ports
all mounting and connecting threads
for PV063-PV180 only: pressure port 1 1/4" with 4 x M14 instead of 4 x M12

06

Code	Thru drive option no adaptor for 2nd pump	Code	Thru drive option no adaptor for 2nd pump
T	single pump prepared for thru drive	E[11]	SAE E, Ø 165.1mm
	with adaptor for 2nd pump	G[12]	metric, Ø 63mm
Y[8]	SAE AA, Ø 50.8mm	H	metric, Ø 80mm
A	SAE A, Ø 82.55mm	J	metric, Ø 100mm
B	SAE B, Ø 101.6mm	K[9]	metric, Ø 125mm
C[9]	SAE C, Ø 127mm	L[10]	metric, Ø 160mm
D[10]	SAE D, Ø 152.4mm	M[11]	metric, Ø 200mm

[8] only for PV016 - PV023
[9] only for PV032 and larger
[10] only for PV063 and larger
[11] only for PV270
[12] only for PV016 - PV092

07

Code	2nd pump option[7]
1	single pump, no 2nd pump and coupling
2	PV140 or PV180 mounted
3	PV or PVM pump mounted
4	gear pump series PGP mounted
5	PAV/PAF up to 6.3 cm³/rev mounted
6	PAV10 or PAF8-10 mounted

[7] Specify 2nd pump with full model code

08

Code	Seals
N	NBR
V	FPM
E	EPR

09

Standard pressure compensator Code	Compensator option
0 0 1	No compensator
F D S	10 - 140 bar, spindle + lock nut
F H S	40 - 210 bar, spindle + lock nut
F W S	70 - 350 bar spindle + lock nut

10

Remote compensator options	
F R	Remote pressure compensator
F S	Variation R, for quick unload valve
F F	Load-Sensing compensator
F T	Two valve load-sensing compensator

11

Variations for remote compensator	
C	external pressure pilot [13]
1	NG6/D03 interface top side
P	Pilot valve PVAC1P*M* mounted
D	Proportional pilot valve type DSAE1007P07KLAF mounted
L	Pilot valve with DIN lock mounted
Z	Accessory mounted [14]

TECHYDRO PISTON PUMP

TH-PV PARKER

Axial piston pump variable displacement high pressure version	Size and displacement	Rotation	Variation	Mounting code	Threads	Thru drive	2nd pump	Seals	Compensator	pump compensator Design series: *not required for order*	Compensator	Design series: *not required for order* Pump	Compensator
TH-PV	01	02	03	04	05	06	07	08	09	10	11	12	13

12

Horse power compensator Code	016 023	032 046	063 092	140	180	270	Nom. HP [kW] at 1500 min⁻¹	Nom. torque [Nm]
B	x						3	19.5
C	x						4	26
D	x	x					5.5	36
E	x	x					7.5	49
G	x	x	x				11	71
H	x	x	x				15	97
K		x	x	x			18.5	120
M		x	x	x	x		22	142
S			x	x	x		30	195
T			x	x	x	x	37	240
U			x	x	x	x	45	290
W				x	x	x	55	355
Y					x	x	75	485
Z					x	x	90	585
2						x	110	715
3						x	132	850
Function								
L	x	x	x	x	x	x	Horse power compensator	
C	x	x	x	x	x	x	Horse power compensator and load-sensing	
Variation								
A	x	x	x	x	x	x	NG6 interface top side	
B	x	x	x	x	x	x	no pressure compensation	
C	x	x	x	x	x	x	adjustable pressure compensation	
D	x	x	x	x	x	x	Proportional pilot valve DSAE1007P07KLAF mounted	
Z	x	x	x	x	x	x	Accessories mounted [2]	

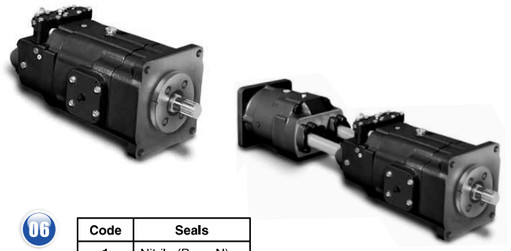
PI PVplus UK.PM6.5 RH

13

Electrohydraulic compensator Code	Compensator option
	Pilot pressure supply
F	Standard (internal), no shuttle valve
W	With shuttle valve, comp. horizontal
	Function
P	Proportional displacement control
	Variation
V	Standard, no pressure compensation
D	Proportional pilot valve DSAE1007P07KLAF mounted
Z	Variation R, accessories mounted [14]
R	Remote pressure comp. NG6 interface
G	Variation R, Pressure sensor and proportional pilot valve mounted for pressure resp. horse power control
S	Remote pressure comp., NG6 interface top side, for quick unload valve
T	Variation S, pressure sensor and proportional pilot valve mounted for pressure resp. horse power control
P	Remote pressure comp., NG6 interface top side, for preload and quick unload manifold
E	Variation P, pressure sensor and proportional pilot valve mounted for pressure resp. horse power control

GOLD CUP PARKER PUMP

	Displacement	Type	Efficiency	Shaft	Rotation	Seals	Design [2]	Primary Controls	Secondary Controls	Control Location	Control & Displacement Features	Internal Pump	External Drive	External Mounting	Special Modifications
Pump	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15



01

Code	Displacement
6	6.00 in³/rev (98 cc/rev)
7	7.25 in³/rev (119 cc/rev)
8	8.00 in³/rev (131 cc/rev)
11	11.0 in³/rev (180 cc/rev)
14	14.0 in³/rev (229 cc/rev)
24	24.6 in³/rev (403 cc/rev)
30	30.6 in³/rev (501 cc/rev)

02

Code	Type
F	Fixed Displacement, Open/Closed Circuit
M	Fixed Displacement with High Torque Thru-Drive, Open/Closed Circuit
P	Variable Displacement, Closed Circuit
X	Variable Displacement with Medium Torque Thru-Drive, Closed Circuit
S	Variable Displacement with Medium Torque Thru-Drive & Shuttle Package, Closed Circuit
R	Variable Displacement with High Torque Thru-Drive, Closed Circuit
L	Variable Displacement with High Torque Thru-Drive & Shuttle Package, Closed Circuit
V	Variable Displacement, Open Circuit (P6, 7, 8, 11 & 14 only)
D	Variable Displacement, Open & Closed Circuit (P6, 7 & 8 only)

02

Code	Shaft
-2	Keyed SAE – Mechanical Shaft Seal (Single Lip Seal on P6, 7, 8F/M)
-3	Splined SAE – Mechanical Shaft Seal (Single Lip Seal on P6, 7, 8F/M)
-4	Keyed SAE-D (Mounting & Shaft) – Mechanical Shaft Seal (P6, 7 & 8 only, Single Lip Seal on Fixed Displacement Pumps)
-5	Splined SAE-D (Mounting & Shaft) – Mechanical Shaft Seal (P6, 7 & 8 only, Single Lip Seal on Fixed Displacement Pumps)
-7	Keyed SAE – Double Lip Shaft Seal
-8	Splined SAE – Double Lip Shaft Seal
-9	Keyed (long) SAE – Double Lip Shaft Seal
-10	Keyed (long) SAE – Mechanical Shaft Seal

03

Code	Efficiency
H	High Efficiency (P24 only)
Omit	Standard Efficiency

05

Code	Rotation
R	Clockwise
L	Counterclockwise

06

Code	Seals
1	Nitrile (Buna-N)
4	EPR [1, 3]
5	Fluorocarbon

08

Code	Primary Controls
Omit	None (Fixed Displacement only)
-10	Screw Adjustment (Spring Offset to Maximum Displacement)
-2A	Cylinder Control w/Adjustable Maximum Volume Stops
-2H	Cylinder Control – 3-Position (Spring Control with Zero Adjustment)
-2M	Cylinder Control – 2-Position Electrohydraulic w/Adjustable Maximum Volume Stop (Spring Offset to Maximum Displacement) [1]
-2N	Cylinder Control – 3-Position (Spring Centered) Electrohydraulic [1]
-40	Rotary Servo – Spring Centered
-4A	Rotary Servo – Spring Centered w/Adjustable Maximum Volume Stops
-4B	Rotary Servo – Spring Centered w/Automatic Brake Control
-4C	Rotary Servo – Spring centered w/Adjustable Maximum Volume Stops & Automatic Brake Control
-5A	Electrohydraulic Stroker w/Adjustable Maximum Volume Stops [1]
-5C	Electrhydraulic Stroker w/Adjustable Maximum Volume Stops & Automatic Brake Control [1]
-7D	High IQ with 10 GPM Servo Valve & Volume Indicator [1]
-7F	High IQ with 10 GPM Servovalve & 4A (Rotary Servo) Control [1]
-7J	High IQ with DF+ Valve & Volume Indicator [1]
-7K	High IQ with DF+ Valve & 4A (Rotary Servo) Control [1]
-8A	Hydraulic Stroker w/Adjustable Maximum Volume Stops
-8C	Hydraulic Stroker w/Adjustable Maximum Volume Stops & Automatic Brake Control
-9A	Electrohydraulic Stroker w/Adjustable Maximum Volume Stops [1]
-9C	Electrohydraulic Stroker w/Adjustable Maximum Volume Stops & Automatic Brake Control [1]
-9D	Electro-hydraulic stroker w/ adjustable maximum volume stops

10

Code	Control Location
Omit	None (Fixed Displacement only)
-A	Primary Control on Port A Side
-B	Primary Control on Port B Side

Parker Hannifin Corporation
Hydraulic Pump Division
Marysville, Ohio USA

TECHYDRO
PISTON PUMP

GOLD CUP PARKER PUMP

	Displacement	Type	Efficiency	Shaft	Rotation	Seals	Design [2]	Primary Controls	Secondary Controls	Control Location	Control & Displacement Features	Internal Pump	External Drive	External Mounting	Special Modifications
Pump	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15

11

Control	Code	Control Feature
2M* & 2N*	00	CETOP3, NG6 Valve, 110AC/60Hz with Hirschmann Connector [1]
	01	CETOP3, NG6 Valve, 12VDC with Hirschmann Connector [1]
	02	CETOP3, NG6 Valve, 240VAC/50Hz with Hirschmann Connector [1]
	03	CETOP3, NG6 Valve, 110VAC/60Hz, Wiring Box [1]
	04	CETOP3, NG6 Valve, 12VDC, Wiring Box [1]
	05	CETOP3 (D03, NG6) Interface, No Valve [1]
	06	CETOP3, NG6 Valve, 24VDC with Hirschmann Connector [1]
	07	CETOP3, NG6 Valve, 110VAC/50Hz with Hirschmann Connector [1]
5**	00	With Deadband [1]
	01	Without Deadband [1]
7**	00	Without Manual Override Shutoff [1]
	01	With Manual Override Shutoff [1] (required for D, F, J & K primary options)
8**	00	75-350 PSI (5-24 Bar)
	01	75-435 PSI (5-30 Bar)
	02	100-300 PSI (7-26 Bar)
	03	150-400 PSI (10-28 Bar)
	04	75-250 PSI (5-17 Bar)
9**	00	24VDC
	01	12VDC
All Other	00	None [1]

Pump	Code	Reduced Displacement
P**F & P**M	00	Standard Cam (19°)
	10	P6 with 17° Cam – 5.3 in³/rev (87cc/rev) P7 with 17° Cam – 6.4 in³/rec (105 cc/rev) P8 with 17° Cam – 7.1 in³/rev (116 cc/rev) P11 with 17° Cam – 9.7 in³/rev (160 cc/rev) P14 with 17° Cam – 12.5 in³/rev (205 cc/rev) P24 with 17° Cam – 22.0 in³/rev (360 cc/rev) P30 with 17° Cam – 27.2 in³/rev (446 cc/rev)
	20	P6 with 15° Cam – 4.6 in³/rev (76 cc/rev) P7 with 15° Cam – 5.6 in³/rev (92 cc/rev) P8 with 15° Cam – 6.2 in³/rev (102 cc/rev) P11 with 15° Cam – 8.5 in³/rev (140 cc/rev) P14 with 15° Cam – 10.9 in³/rev (179 cc/rev)
	30	P6 with 13° Cam – 4.0 in³/rev (66 cc/rev) P7 with 13° Cam – 4.8 in³/rev (79 cc/rev) P8 with 13° Cam – 5.3 in³/rev (88 cc/rev)

12

Code	Internal Pump
-0	1.07 in³/rev (17.5 cc/rev) – P6, 7, 8P/S/X/V/D & P11, 14V only** 2.14 in³/rev (35 cc/rev) – P11, 14P/S/X only** 2.81 in³/rev (46 cc.rev) – P24, 30P/S/X only (standard)**
-1	1.61 in³/rev (26.4 cc/rev) – P24, 30P/S/X only (auxiliary external replenishing flow required)
-2	1.05 in³/rev (17.2 cc/rev) – P24, 30P/S/X only (auxiliary external replenishing flow required)
-3	3.56 in³/rev (58.3 cc/rev) – P24, 30P/S/X only
-4	4.84 in³/rev (79.3 cc/rev) – P24, 30P/S/X only
-5	5.42 in³/rev (88.8 cc/rev) – P24, 30P/S/X only
-6	6.10 in³/rev (100.0 cc/rev) – P24, 30P/S/X only
-X	No Internal Pump (standard on P*R/L/F/M)

** Omit code if no external drive is required.

13

Code	External Drive
Omit	None [1]
M	Blanking plate – for P6, 7, 8, 11, 14S/X only
A	SAE-A (SAE 82-2) – P6, 7, 8, 11, 14S/X/R/L/M only
B	SAE-B (SAE 101-2) – P6, 7, 8, 11, 14, 24, 30/S/X/R/L/M SAE-B (SAE 101-4) – P11, 14, 24, 30R/L/M
C	SAE-C (SAE 127-2) – P6, 7, 8, 11, 14, 24, 30R/L/M & P24, 30S/X SAE-C (SAE 127-4) – P11, 14, 24, 30R/L/M
D	SAE-D (SAE 152-4) – P11, 14, 24, 30R/L/M only
E	SAE-E (SAE 165-4) – P11, 14, 24, 30R/L/M only
F	SAE-F (SAE 177-4) – P24, 30R/L/M only

14

Code	External Mounting
Omit	No External Drive Required
0	No External Pump Mounted
1	External Pump Mounted (must be separately specified) – Requires Special Modification "-M2" [1]
2	ATEX Externally Mounted Pump

15

Code	Special Modifications
Omit	None
-NP	No Paint [1]
-EX	ATEX APPROVED PUMP must consult engineering.
-M2	Other Special Modification (example: bronze caged barrel bearing for low viscosity fluids, tandem pumps, etc.) [1]

FOR ALL TECHNICAL SPECIFICATION OR DRAWINGS PLEASE CONTACT OUR TEAM OR EMAIL US : ***SALES@TECHYDRO.COM.CN***

TH-PV PLUS-PARKER

Pump Variable Piston: **TH-PV** | 01 Displace-ment | 02 Rotation | 03 Pump Variations | 04 Shaft & Mounting | 05 Threads Code | 06 Thru-Drive Option | 07 Coupling Code | 08 Seals | 09 Control Options

01

Code	Displacement in³/rev (cc/rev)
016	.98 (16)
020	1.2 (20)
023	1.4 (23)
028	1.7 (28)
032	1.9 (32)
040	2.4 (40)
046	2.8 (46)

02

Code	Rotation*
R	CW
L	CCW

*As viewed from shaft end.

03

Code	Pump Variations
1	Standard
9*	Customized Displacement and/or Pressure Setting

*Specify in cc/rev and/or bar.

04

Code	Shaft & Mounting			
	PV016/020/023		PV032/040/046	
	Shaft	Pilot	Shaft	Pilot
D	1" Keyed (SAE BB)	4 Bolt SAE B	1¼" Keyed (SAE C)	4 Bolt SAE C
E	15T Spline (SAE BB)	4 Bolt SAE B	14T Spline (SAE C)	4 Bolt SAE C
K	25mm Keyed	4 Bolt 100mm	32mm Keyed	4 Bolt 125mm
L	W25 x 1.5 x 15 x 8f Spline DIN 5480	4-Bolt 100mm	W32 x 1.5 x 20 x 8f Spline DIN 5480	4 Bolt 125mm

05

Code	Threads Code	
	Port*	Threads**
1	BSPP	Metric
3	UNF	UNC
7	ISO 6149	UNC
8	ISO 6149	Metric

*Drain, gage, and flushing ports.
** Mounting and connecting threads

06

Code	Thru-Drive Option (1st Digit)	Code	Second Pump (2nd Digit)
T	Single Pump Prepared for Thru-Drive	1	Single Pump, No Coupling
	With Adapter for Second Pump	H	w/Coupling, 25 x 1.5 x 15, DIN 5480
Y[1]	SAE AA, ∅2.00in (∅50.8mm)	J	w/Coupling, 32 x 1.5 x 20, DIN 5480
A	SAE A, ∅3.25in (∅82.55mm)	Y	w/SAE Coupling, 9T-16/32 DP
B	SAE B, ∅4.00in (∅101.6mm)	A	w/SAE Coupling, 11T-16/32 DP
C[2]	SAE C, ∅5.00in (∅127mm)	B	w/SAE Coupling, 13T-16/32 DP
G	Metric, ∅2.48in (∅63mm)	C*	w/SAE Coupling, 15T-16/32 DP
H	Metric, ∅3.15in (∅80mm)	D	w/SAE Coupling, 14T-12/24 DP
J	Metric, ∅3.94in (∅100mm)	E	w/SAE Coupling, 17T-12/24 DP
K[2]	Metric, ∅4.92in (∅125mm)		

1 Only for PV016 thru PV023
2 Only for PV032 and larger * Only for PV032 and larger

07

Code	Coupling Code
1	Single pump, no coupling
H	with coupling 25 x 1.5 x 15, DIN 5480
J	with coupling 32 x 1.5 x 20, DIN 5480
Y	with coupling SAE A 9T-16/32 DP
A	with coupling SAE - 11T-16/32 DP
B	with coupling SAE B 13T-16/32 DP
C	with coupling SAE B-B 15T-16/32 DP
D	with coupling SAE C 14T-12/24 DP

08

Code	Seals
N	Nitrile
V	Fluorocarbon
W	Nitrile w/PTFE Shaft Seal
P	FPM w/PTFE Shaft Seal

09

Code			Control Options
			Standard Pressure Compensator
0	0	1	No Compensator
1	0	0	With Cover Plate, No Control Function
M	M		Standard pressure control, integrated pilot valve
M	R		Remote pressure control, integrated pilot valve
M	F		Load Sensing (flow) control, integrated pilot valve
M	T		Two spool LS control
•	•	•	**Remote/Load Sense Compensator**
		C	Standard version[1]
		1	NG6 interface top side for pilot valves
		W	With unloading function, 24VDC solenoid[1]
		K	Prop.-pilot valve type PVACRE..35 mounted
		Z	Without integrated pilot valve, NG6 interface, for mounting of accessory code PVAC
		P	MT1 with mounted pilot valve PVAC1P[2]
•	•	•	**Horsepower Compensator Control**
			Nominal Horsepower at 1500 RPM
B			3 HP (19.5 Nm Torque)
C			4 HP (26 Nm Torque)
D			5,5 HP (36 Nm Torque)
E			7,5 HP (49 Nm Torque)
G			11 HP (71 Nm Torque)
H			15 HP (97 Nm Torque)
K			18,5 HP (120 Nm Torque)
M			22 HP (142 Nm Torque)
S			30 HP (195 Nm Torque)
			Function
	L		Horsepower Compensator
	C		Horsepower Compensator & Load Sensing
			Variation
		A	NG6 Interface Top Side
		B	No Pressure Compensation
		C	Adjustable Pressure Compensation
		D	Proportion Pilot Valve PVACPP* Mounted
		Z	Accessories Mounted
•	•	•	**Electro Hydraulic Control Options**
F	P	V	Proportional displacement control, no pressure compensation
U	P		Proportional displacement control, with pressurecompensation

PV016/020/023 | PV032/040/046

NOTES:
Compensator differential Δp is to be adjusted:
Remote pressure comp., horsepower comp. 15 ± 1 bar
Load-sensing comp. (not horsepower comp.) 10 ± 1 bar (Codes MF* and LS part of MT*)
Consult catalog on CD for electrohydraulic control options.

1 Not for MT 2 Only for MT

TECHYDRO PISTON PUMP

TH-PV PLUS-PARKER

Pump Variable Piston: **TH-PV** | 01 Displace-ment | 02 Rotation | 03 Pump Variations | 04 Shaft & Mounting | 05 Threads Code | 06 Thru-Drive Option | 07 Coupling Code | 08 Seals | 09 Control Options

01

Code	Displacement in³/rev (cc/rev)
063	3.8 (63)
080	4.8 (80)
092	5.6 (92)
140	8.5 (140)
180	10.9 (180)
270	16.5 (270)
360	22.0 (360)

02

Code	Rotation*
R	CW
L	CCW

*As viewed from shaft end.

03

Code	Pump Variations
1	Standard
9*	Customized Displacement and/or Pressure Setting

*Specify in cc/rev and/or bar.

04

Code	Shaft & Mounting					
	PV063/ 080/092		PV140/ 180		PV270	
	Shaft	Pilot	Shaft	Pilot	Shaft	Pilot
D	1¾" Keyed (SAE D)	4 Bolt SAE D	2" Keyed SAE F	4 Bolt SAE D	2" SAE Keyed	4 Bolt SAE E
E	13T Spline (SAE D)	4 Bolt SAE D	15T Spline SAE F	4 Bolt SAE D	15T Spline SAE F	4 Bolt SAE E
F			1¾" Keyed SAE D	4 Bolt SAE D		
G			13T Spline SAE D	4 Bolt SAE D		
K	40mm Keyed	4 Bolt 160 mm	50mm Keyed	4 Bolt 160 mm	65mm Keyed	4 Bolt 200 mm
L	W40 x 1.5 x 25 x8f Spline DIN 5480	4 Bolt 160 mm	W50 x 2 x 24 x 9g Spline DIN 5480	4 Bolt 160 mm	W60 x 2 x 28 x 9g Spline DIN 5480	4 Bolt 200 mm

05

Code	Threads Code	
	Port*	Threads**
1	BSPP	Metric
3	UNF	UNC
4***	BSPP-M14	Metric
7	ISO 6149	UNC
8	ISO 6149	Metric

* Drain, gage, and flushing ports.
** Mounting and connecting threads
*** Only for PV063-PV180; pressure port 1¼" with 4xM14 instead of 4xM12

06

Code	Thru-Drive Option (1st Digit)	Code	Second Pump* (2nd Digit)
T	Single Pump Prepared for Thru-Drive	1	No Second Pump and Coupling
	With Adapter for Second Pump	2	PV140 or PV180 Mounted
A	SAE A, ∅3.25in (∅82.55mm)	3	PV Pump Mounted
B	SAE B, ∅4.00in (∅101,6mm)	4	Gear Pump Series PGP Mounted
C	SAE C, ∅5.00in (∅127mm)		
D[1]	SAE D, ∅6,00in (∅152,4) mm		
E[2]	SAE E, ∅6.50in (∅165.1mm)		
G[3]	Metric, ∅2,48in (∅63mm)		
H	Metric, ∅3,15in (∅80mm)		
J	Metric, ∅3,94in (∅100mm)		
K	Metric, ∅4,92in (∅125mm)		
L[1]	Metric, ∅6.30in (∅160mm)		
M[2]	Metric, ∅7,87in (∅200mm)		

1 Only for PV063 and larger
2 Only for PV270
3 Only up to PV092

* Specify 2nd pump with full model code.

COMPENSATOR NOTES:
Compensator differential Δp is to be adjusted:
Remote pressure comp., power comp. 15 ±1 bar.
(Codes FR*, FT*, *L*, *C*, FPR, FPZ, FPG)
Load-sensing comp. (not power comp.) 10 ± 1 bar (Codes FF*)
Consult catalog on CD for electrohydraulic control options.

07

Code	Coupling Code
1	Single pump, no coupling
H	with coupling 25 x 1,5 x 15, DIN 5480
J	with coupling 32 x 1,5 x 20, DIN 5480
K	with coupling 40 x 1,5 x 25, DIN 5480
L	with coupling 50 x 2 x 24, DIN 5480
Y	with coupling SAE A 9T-16/32 DP
A	with coupling SAE - 11T-16/32 DP
B	with coupling SAE B 13T-16/32 DP
C	with coupling SAE B-B 15T-16/32 DP
D	with coupling SAE C 14T-12/24 DP
E	with coupling SAE C - C
F	with coupling SAE D, E
G	with coupling SAE F

08

Code	Seals
N	Nitrile
V	Fluorocarbon
W	Nitrile w/PTFE Shaft Seal
P	FPM w/PTFE Shaft Seal

09

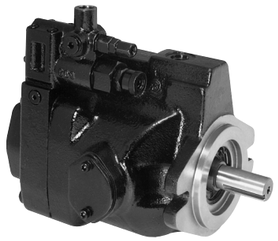
Code			Control Options
			Standard Pressure Compensator
0	0	1	No Compensator
1	0	0	With Coverplate, No Control Function
M	M		Standard pressure control, integrated pilot valve
M	R		Remote pressure control, integrated pilot valve
M	F		Load Sensing (flow) control, integrated pilot valve
M	T		Two spool LS control
•	•	•	**Remote/Load Sense Compensator**
		C	Standard version[1]
		1	NG6 interface top side for pilot valves
		W	With unloading function, 24VDC solenoid[1]
		K	Prop.-pilot valve type PVACRE..35 mounted
		Z	Without integrated pilot valve, NG6 interface, for mounting of accessory code PVAC
		P	MT1 with mounted pilot valve PVAC1P[2]
•	•	•	**Horsepower Compensator Control**
			Input Horsepower at 1500 RPM
G			11 HP (71 Nm Torque)
H			15 HP (97 Nm Torque)
K			18.5 HP (120 Nm Torque)
M			22 HP (142 Nm Torque)
S			30 HP (195 Nm Torque)
T			37 HP (240 Nm Torque)
U			45 HP (290 Nm Torque)
W			55 HP (355 Nm Torque)
Y			75 HP (485 Nm Torque)
Z			90 HP (585 Nm Torque)
2			110 HP (715 Nm Torque)
3			132 HP (850 Nm Torque)
4			160 HP (850 Nm Torque)
5			180 HP (850 Nm Torque)
6			200 HP (850 Nm Torque)
			Function
	L		Horsepower Compensator
	C		Horsepower Compensator & Load Sensing
			Variation
		A	NG6 Interface Top Side
		B	No Pressure Compensation
		C	Adjustable Pressure Compensation
		D	Proportional Pilot Valve PVACPP* Mounted
		Z	Accessories Mounted[3]
•	•	•	**Electro Hydraulic Control Options**
F	P	V	Proportional displacement control, no pressure compensation
U	P		Proportional displacement control, with pressurecompensation

PV140 | PV180 | PV270 | PV360

1 Not for MT
2 Only for MT
3 Accessories not included. Please specify on order with full model code.

TH-PVP-PARKER

Pump Variable Piston	16 Displacement	Pressure Range	Shaft	Port & Flange Sizes	Rotation	Volume Stop Option	Thru-Shaft Threads	Thru-Shaft Option	Control Option	Seals	Paint	Multiple Pumps
TH-PVP	01	02	03	04	05	06	07	08	09	10	11	12



01

Code	CM^3/REV ($In^3/Rev.$)
16	16.4 (1.0)

02

Code	Pressure Range*
10	17-69 bar (250-1000 PSI)
20	17-138 bar (250-2000 PSI)
30	17-207 bar (250-3000 PSI)
36	17-248 bar (250-3600 PSI)

* Minimum value of pressure range only applies on control option "omit" code.

03

Code	Shaft Option	Pilot
Omit	3/4" Keyed	SAE "A"
B*	9T Spline (SAE A)	SAE "A"
C	11 Tooth Spline	SAE "A"

* Total input torque not to exceed 58.2 N•m (517 In.-Lbs.)

04

Code	Ports	
	Type	Location
Omit	SAE	Rear - Straight Thread
2*	SAE	Side - Flange
4	SAE	Side - Straight Thread
5	SAE	Rear - Straight Thread (Vickers)

* Not with CCW A2 thru drive option

05

Code	Rotation*
R	(CW)
L	(CCW)

* Viewed from shaft end.

06

Code	Volume Stop Options
Omit	No Volume Stop
2	Adj. Maximum Volume Stop

07

Code	Thru-Shaft Threads
Omit	No Thru-Shaft
6*	UNC

* Available with 2 or 4 port option only.

08

Code	Thru-Shaft Options
Omit	No Thru-Shaft
A1	SAE "AA" Pilot / 1/2" Key
A2	SAE "A" Pilot / 3/4" Key
A4	SAE "A" Pilot / SAE "A" 9T Spline
T	Thru with Cover

09

Code	Control Options
Omit	Pressure Compensated
**M	Remote Pressure (Int.)
**ME	Remote Pressure (Ext.)
A	Pressure, Flow
*C	Pressure, Flow, and Power
*H	Pressure Compensated and Power

* Specify HP, RPM & comp setting when ordering or will get default.

** "M" (May be remotely controlled)
"ME" (Requires external pilot)

10

Code	Seals
Omit	Nitrile
V	Fluoroelastomers*

"**FLUOROELASTOMERS** are available under various registered trademarks, including

FLUOROCARBON (a registered trademark of DuPont) and **FLUOREL** (a registered trademark of 3M)."

11

Code	Painting
Omit	No Paint
P	Paint

12

Code	Multiple Pumps
Omit	Single Pump
–	Pump Factory Mounted on Rear

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TH-HPR LINDE

	DISPLACEMENT (cc/rev)	ROTATION	CONTROL	CONTROL OPTIONS	MOUNTING	SHAFT	REGULATION SETTING	DISP. MAX.	DISP. MIN.	ADD-ON PTO	SPECIALS
	□□□□	□	□	□	□	□	□□□	□□□	□□□	□	□
TH-HPR	75	R	M		C	H	380	X	X	A	S
	01	02	03	04	05	06	07	08	09	10	11

01 DISPLACEMENT

75 (4.63 cir)
105 (6.41 cir)
105D (12.80 cir)
135 (8.27 cir)

02 ROTATION

R = CLOCKWISE
L = COUNTER-CLOCKWISE

03 CONTROL

M = LOAD SENSE AND PRESSURE COMPENSATION
N = LOAD SENSE WITH POWER MODE VALVE
L = LOAD SENSE
D = PRESSURE COMPENSATION

04 CONTROL OPTIONS

1 = 12 VDC
2 = 24 VDC

Option is only applicable if control is "N".

05 MOUNTING

C = SAE C 2 BOLT MTG (75, 105)
D = SAE D 2 BOLT MTG (135)
S = SPECIAL PLUG IN MOUNT (105D)
3 = SAE 3 BELLHOUSING (OPT 105D)
4 = SAE 4 BELLHOUSING (OPT 105D)

06 SHAFT

H = ANSI 21T 16/32 P (75)
23T 16/32 P (105, 105D)
27T 16/32 P (135)
C = SAE C 14T 12/24 P (OPT 75, 105)
D = SAE D 13T 8/16 P (OPT 135)
G = SAE CC 17T 12/24 P (OPT 105)

07 COMPENSATION / REGULATION BEGIN

SPECIFY SETTING IN BAR (1 BAR = 14.5 PSI)

08 MAX. DISPLACEMENT (SINGLE UNITS ONLY)

IF NOT DESTROKED, ENTER "X".
OTHERWISE, SPCIFY SETTING IN CC/REV.

09 MIN. DISPLACEMENT (SINGLE UNITS ONLY)

ENTER "X", FOR ZERO MIN.
DISPLACEMENT. OTHERWISE,
SPECIFY SETTING IN CC/REV.

10 ADD-ON (PTO)

A = SAE A w/9T SPLINE COUPLING
B = SAE B w/13T SPLINE COUPLING
J = SAE B w/15T SPLINE COUPLING
C = SAE C w/14T SPLINE COUPLING

11 SPECIALS (2)

INSERT S, THEN CALL OUT
REQUIREMENT IN CLEAR TEXT.

TH-HPV LINDE

	DISPLACEMENT (cc/rev)	ROTATION	CONTROL	CONTROL OPTIONS	MOUNTING	SHAFT	R/V SETTING	DISP. MAX.	DISP. MIN.	ADD-ONS	SPECIALS
	□□□	□	□	□	□	□	□□□	□□□	□□	□□	□
TH-HPV	105	R	K	1	C	H	420	X	X	AX	X
	01	02	03	04	05	06	07	08	09	10	11

01 DISPLACEMENT

75 (4.63 cir)
105 (6.41 cir)
135 (8.27 cir)

02 ROTATION

R = CLOCKWISE
L = COUNTER-CLOCKWISE

03 CONTROL

H = HYDRAULIC REMOTE
E = PROPORTIONAL ELECTRIC
K = MANUAL CAM LEVER

04 CONTROL OPTIONS

HPV 'K' 1 = KORIF 1.0
2 = KORIF 0.7
3 = KORIF 0.8
4 = KORIF 1.2
5 = KORIF 1.5
E CONTROL 1 = 12 VDC
2 = 24 VDC

05 MOUNTING

C = SAE C 2 BOLT MTG (75, 105)
D = SAE D 2 BOLT MTG (135)

06 SHAFT

H = ANSI 21T 16/32 P (75)
23T 16/32 P (105)
27T 16/32 P (135)
C = SAE C 14T 12/24 P
(OPT 75, 105)
D = SAE D 13T 8/16 P (OPT 135)

07 RELIEF SETTING

IN BAR

08 MAX. DISPLACEMENT (SINGLE UNITS ONLY)

IF NOT DESTROKED, ENTER "X".
OTHERWISE, SPCIFY SETTING IN CC/REV.

09 MIN. DISPLACEMENT (SINGLE UNITS ONLY)

ENTER "X", FOR ZERO MIN.
DISPLACEMENT. OTHERWISE, SPECIFY SETTING IN CC/REV.

10 ADD-ONS

PTO'S:
A = SAE A w/9T SPLINE COUPLING (std. on all Models)
B = SAE B w/13T SPLINE COUPLING (2)
J = SAE B w/15T SPLINE COUPLING (2)
C = SAE C w/14T SPLINE COUPLING (2)

ADDITIONAL CONTROLS OPTIONS:
P = PRESSURE OVERRIDE
X = NONE
Z = ZERO FLOW DEVICE (1)

11 SPECIALS

INSERT S, THEN CALL OUT
REQUIREMENT IN CLEAR TEXT.

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TH-ACA SERIES-EATON

	TH-ACA	39	2	03	02	L	1	A	CC	EA	AAA	2	C	N	A
		01	02	03	04	05	06	07	08	09	10	11	12	13	14

01 Displacement

63.66 cm³/r (3.885 in³/r)	39
75.28 cm³/r (4.594 in³/r)	46
89.13 cm³/r (5.439 in³/r)	54
105.4 cm³/r (6.431 in³/r)	64
124.8 cm³/r (7.616 in³/r)	76

02 Type

Variable Displacement Pump	2

03 Design Type

Ball-Guide (Model 76)	0
Series 1 (Models 39-64)	3

04 Input Shaft

(1.500) Diameter straight with (.3750) x (2.5) square key (Models 39-64)	01
(1.750) Diameter straight with (.4375) x (3.0) square key (Model 76)	02
13 Tooth 8/16 pitch spline (Model 76)	13
14 Tooth 12/24 pitch spline (Models 33-64)	14
21 Tooth 16/32 pitch spline (Models 39-64)	21
21 Tooth 16/32 pitch spline with (3.22) exten-sion (Models 46-64)	22
23 Tooth 16/32 pitch spline (Models 39-64)	23
23 Tooth 16/32 pitch Sspline with 3/8-24 UNF hole (Models 39-64)	24
21 Tooth 16/32 pitch spline with 3/8-24 UNF hole (Models 39-64)	25
27 Tooth 16/32 pitch spline (Model 76)	27
13 Tooth 8/16 pitch spline with (2.93) extension and for 76 seal (Models 54-64)	30
13 Tooth 8/16 pitch spline with (2.19) extension and for 76 seal (Model 54)	33
21 Tooth 16/32 pitch spline with M10 x 1.5 threaded hole (Models 39-46)	36
23 Tooth 16/32 pitch spline with M10 x 1.5 threaded hole (Models 39-54)	37
27 Tooth 16/32 pitch spline with (2.93) extension and for 76 seal (Models 54-64)	38
34.9 (1.375) Diameter tapered with 9.5 (.3750) x 25.4 (1.00) square key (Models 39-64)	39
38 (1.50) Diameter tapered with 9.5 (.3750) x 25.4 (1.00) square key (Models 54-64)	40
44 (1.75) Diameter tapered with 11 (.4375) x 25.4 (1.00) square key (Model 76)	41
14 Tooth 12/24 pitch spline with M10 x 1.5 threaded hole (Models 39-46)	44

Input Rotation

Counterclockwise	L
Clockwise	R

Valve Plate

Standard (V-groove)	0
Propel	1

Main Ports

25.4 (1.00) - Code 61 per SAE J518	A
25.4 (1.00) - Code 62 per SAE J518	B
(1.00) - Code 61 per SAE J518 with port A and B gage ports	D
(1.00) - Code 62 per SAE J518 with port A and B gage ports	E

Power Limiter Valve Setting Port A and Port B

None	0
103 bar (1500 lbf/in²)	C

TH-ACA SERIES-EATON

TH-ACA 39 2 03 02 L 1 A CC EA AAA 2 C N A

01 02 03 04 05 06 07 08 09 10 11 12 13 14

Power Limiter Valve Setting Port A and Port B

08

138 bar (2000 lbf/in²)	D
172 bar (2500 lbf/in²)	E
207 bar (3000 lbf/in²)	F
241 bar (3500 lbf/in²)	G
276 bar (4000 lbf/in²)	H
310 bar (4500 lbf/in²)	J
345 bar (5000 lbf/in²)	K
379 bar (5500 lbf/in²)	L
414 bar (6000 lbf/in²)	M
448 bar (6500 lbf/in²)	N

Control Option

09

Shipping cover, with control feedback link	0B

Electro-proportional

Electronic proportional control 12 volt DC	EJ
Electronic proportional control 24 volt DC	EK
Electronic proportional control, 12VDC, swash plate electronic sensor feedback, de-stroking valve	FD
Electronic proportional control, 24VDC, swash plate electronic sensor feedback, de-stroking valve	FE
Electric control 12 volt with swashplate feedback sensor, with electrical connectors DIN 43650	SC
Electric control 24 volt with swashplate feedback sensor, with electrical connectors DIN 43650	SD

Forward-Neutral-Reverse

Forward-neutral-reverse control 12 volt DC with 2-pin weatherpack connector	FR
Forward-neutral-reverse control 24 volt DC with 2-pin weatherpack connector	FS

Hydraulic Remote

Hydraulic remote 1.4-14.1 bar (20-205 psi)	HA
Hydraulic remote 1.4-14.1 bar (20-205 psi) with wide band neutral	HB
Hydraulic remote 3.1-14.5 bar (45-210 psi)	HC
Hydraulic remote 4.5-20.0 bar (65-290 psi)	HD
Hydraulic remote 4.5-20.0 bar (65-290 psi) with wide band neutral	HF
Hydraulic remote 4.5-20.0 bar (65-290 lbf/in²) with 12vdc (NC) destroke valve (nonmanifold) with electrical connector (male only) per din 43650	HG
Hydraulic remote 11.0-32.4 bar (160-470 lbf/in²)	HH
Hydraulic remote 3.1-14.5 bar (45-210 psi) with wide band neutral	HJ
Hydraulic remote 4.5-20.0 bar (65-290 lbf/in²) with 12vdc (NC) destroke valve (nonmanifold) with electrical connectors (male & female) per din 43650 for 6.0-10.0 (.24-.39) diameter cable	HK

Mechanical Manual

Manual	MA
Manual with wide band neutral and 3/4-16UN plug in neutral lockout port	MB
Manual with wide band neutral	MC
Manual With (NC) neutral lockout switch (wide band neutral)	MD
Manual with neutral detent (wide band neutral)	ME
Manual with destroke valve (manifold) 12vdc (NO) 3 pin weatherpack connector	MJ
Manual With Neutral Detent (Wide Band Neutral) And 24Vdc (Nc) Destroke Valve (Non-Manifold) With Electrical Connectors (Male & Female) Per Din 43650 For 4.5-8.0(.18-.31) Diameter cable	MK
Manual with (NC) neutral lockout switch (wide band neutral) and 12vdc (NC) destroke valve (non-manifold) with electrical connectors (male & female) per DIN 43650 for 4.5-8.0(.18-.31) diameter cable	ML
Manual with (NO) neutral lockout switch (wide band neutral) and destroke valve (manifold) 12vdc with 2 pin weather pack connector	MM
Manual with (NC) neutral lockout switch (wide band neutral) and destroke valve 12vdc (NO), (non-manifold), no manual override, 2 pin weatherpack connector mounted connector down	MN
Manual with destroke valve (non-manifold) 12vdc (NO), 3 pin packard connector mounted right angle up	MP
Manual with wide band neutral and 24vdc (NC) destroke valve (non-manifold) with electrical connectors (male & female) per din 43650 for 4.5-8.0(.18-.31) diameter cable	MS
With wide band neutral and inching valve with sea	MT

TECHYDRO
PISTON PUMP

TH-ACA SERIES-EATON

TH-ACA 39 2 03 02 L 1 A CC EA AAA 2 C N A

01 02 03 04 05 06 07 08 09 10 11 12 13 14

Manual with wide band neutral, inching valve with seal and neutral detent	MU
With wide band neutral, inching valve with seal and neutral lockout switch (NC)	MV
Manual with destroke valve (manifold) 12vdc (NO) with 2 pin weatherpack connector	MW
Manual with (NC) neutral lockout switch (wide band neutral) with packard 2 pin connector	MZ
Manual with destroke valve(manifold) 12vdc(NO) 3 pin weatherpack connector and (NC) neutral lockout switch (wide band neutral) with packard 2 pin connector	NA
Manual with destroke valve (manifold) 24vdc (NO) 2 pin weatherpack connector	NB
Manual with wide band neutral, inching valve with seal and neutral lockout switch (NC) with packard 2 pin connector	NC
Manual with destroke valve (manifold) 12vdc (NO) with 2 pin weatherpack connector with (NC) neutral lockout switch (wide band neutral) with packard 2 pin connector	ND
Manual with (NC) neutral lockout switch (wide band neutral) and destroke valve (manifold) 12vdc (NC) with 2 pin weatherpack connector	NG
Manual with neutral detent (wide band neutral) and 12vdc (NO) destroke valve(manifold) with manual override and electrical connectors (male & female) per DIN 43650 for 4.5-8.0(.18-.31) diameter cable	NH
Manual with wide band neutral, inching valve with seal and neutral lockout switch (NO)	NK
Manual with destroke valve (manifold) 12vdc (NO) with 2 pin weatherpack connector. no manual override. (NC) neutral lockout switch (wide band neutral) with packard 2 pin connector	NR
Manual with (NC) neutral lockout switch (wide band neutral) and destroke valve (manifold) 24vdc (NC) with 2 pin weatherpack connector	NS
Manual with (NC) neutral lockout switch (wide band neutral) and destroke valve (manifold) 12vdc (NO) with 2 pin metri-pack connector	NT
Manual with (NC) neutral lockout switch (wide band neutral) and destroke valve (manifold) 24vdc (NO) with 2 pin weatherpack connector	NV
Manual with (NC) neutral lockout switch (wide band neutral) with weatherpack (2) pin connector and destroke valve (manifold) 12vdc (NO) with 2 pin metri-pack connector	NW
Port plate, no control feedback link	PA

Remote Electric

Manual with (NC) neutral lockout switch (wide band neutral) with weatherpack (2) pin connector and destroke valve (manifold) 12vdc (NO) with 2 pin metri-pack connector	RD
Remote electric with (NC) destroke valve, (3) 12vdc with (3) 2 pin weatherpak connectors, no displacement limiter, with 0.33 (.013) control supply orifice	RE
Remote electric with (nc) destroke valve including 3.58 (.141) orifice, (3) 12vdc with (3) 2 pin weatherpak connectors, no displacement limiter, with 0.33 (.013) control supply orifice	RF
Remote electric with (NC) destroke valve, (3) 24vdc with (3) 2 pin weatherpak connectors, no displacement limiter, with 0.33 (.013) control supply orifice	RG
Remote electric with (NC) destroke valve including 3,18 (.125) orifice, (3) 12vdc with (1) 2 pin and (1) 4 pin weatherpak connectors, no displacementlimiter, with 0,33 (.013) control supply orifice	RH
Remote electric with (NO) destroke valve including 3,58(.141) orifice, (3) 12vdc with (3) 2 pin weatherpak connectors, no displacement limiter, with 0,33 (.013) control supply orifice	RJ
Remote electric with (NC) destroke valve, (3) 12vdc with wireleads, no displacement limiter, with 0,33 (.013) control supply orifice	RK

Control Supply Orifice

10

None	0
0.71 (.028)Diameter	A
0.91 (.036) Diameter	B
1.12 (.044) Diameter	C
1.32 (.052) Diameter	D
1.45 (.057) Diameter	E
1.65 (.065) Diameter	F
1.85 (.073) Diameter	G
2.39 (.094) Diameter	H
2.59 (.102) Diameter	J

Pressure Override

11

None	0
Internal Pressure Override	2
Internal Pressure Override Externally Adjustable	5

Pressure Setting for Pressure Override

12

None	0
196 bar (2850 lbf/in²)	1
138 bar (2000 psi)	D
172 bar (2500 psi)	E
207 bar (3000 psi)	F

TH-ACA SERIES-EATON

TH-ACA 39 2 03 02 L 1 A CC EA AAA 2 C N A

01 02 03 04 05 06 07 08 09 10 11 12 13 14

Pressure Setting for Pressure Override

12

241 bar (3500 psi)	G
310 bar (4500 psi)	J
345 bar (5000 psi)	K
379 bar (5500 psi)	L
414 bar (6000 psi)	M
362 bar (5250 lbf/in²)	P

Control Special Features

13

No control special features	0
Manual control lever with attachment holes located 66;7 (2.625) and 82;6 (3.25) and 98;4 (3.875) from control shaft mounting hole	3
Control special featuressevere duty coils with boots for electronic proportional control with weather-pack connector	6
Severe duty coils with boots for electronic proportional control	7
Manual control lever with attachment hole located 98;4 (3.875) from control shaft mounting hole	8
No manual control lever	A
Hardened Standard Manual Control lever mounted parallel to the pump drive shaft towards the mounting flange	B
Hardened standard manual control lever	D
Manual control lever with attachment hole 71;9 (2.83) from control shaft mounting hole. lever mounted parallel to pump drive shaft towards the mounting flange	E
Manual control lever with ball stud mounted 50;8 (2.00) from control shaft mounting hole. lever mounted paral□lel to pump drive shaft towards mounting flange	H
Manual control lever with 10;4 (0.41) diameter attachment hole 50;8 (2.00) from control shaft mounting hole	K
Manual control lever with ball stud mounted 76;2 (3.00) from control shaft mounting hole. Lever mounted parallel to pump drive shaft towards mounting flange.	M
Manual control lever with external torsion spring mechanism for neutral return	N
Manual control lever with two 1/4-28 UNF attachment holes located at 85;7 (3.375) and 98;4 (3.875) from control shaft mounting hole. Lever mounted parallel to pump drive shaft towards mounting flange.	S
Manual control lever mounted 1 to 2 spline teeth from vertical with external torsion spring mechanism for neutral return	W
Manual control lever with two 1/4-28 UNF attach□ment holes located at 85;7 (3.375) and 98;4 (3.875) from control shaft mounting hole	Y

Charge Pump

14

Charge pump included	0
Charge pump with integral pressure filter mounted on the -A- port side	2
Charge pump with short element integral pressure filter mounted on the -A- port side and external discharge port for 7/8-14 UNF-2B SAE O-ring fitting with steel hex plug	3
Charge pump with remote pressure filter ports on the -A- port side	A
Charge pump with integral pressure filter mounted on the -B- port side	B
Charge pump with J.Deere integral pressure filter mounted on the -B- port side. diagnostic fitting included	C
Charge pump with external discharge port for 7/8-14 UNF SAE O-ring fitting. With steel hex plug	D
No charge pump	E
Charge pump with external discharge port with 90 degree. 7/8-14 UNF. 37 degree flare tube fitting	F
Charge pump with integral pressure filter and diagnostic fitting mounted on the -B- port side plus inlet gage port with hex plug	G
Charge pump with remote pressure filter ports on -A- port side and inlet gage port on -B- port side	H
Charge pump with integral pressure filter and diagnostic fitting; mounted on the -B- port side and external discharge port with 90 degree; 7/8-14 UNF; 37 degree flare; tube fitting	J
Charge pump with remote pressure filter ports on the -B- port side and external discharge port with 90 degree; 7/8-14 UNF; 37 degree flare; tube fitting	K
Charge pump with integral pressure filter and diagnostic fitting; mount□ed on the -B- port side and external discharge port with straight; 7/8-14 UNF; 37 degree flare; tube fitting	L
Charge pump with remote pressure filter ports on the -B- port side and external dis□charge port with straight 7/8-14 UNF SAE O-ring to 3/4-16 UNF; 37 degree flare; tube fitting	M
Charge pump with remote pressure filter ports on the -B- port side and external discharge port with straight 7/8-14 UNF; 37 degree flare; tube fitting	P
No charge pump; with remote pressure filter ports on the -B- port sideand external discharge port with 90 degree; 7/8-14 UNF; 37 degree flare; tube fitting	R
Charge pump with integral pressure filter and diagnostic fitting; mounted on the -B- port side and external discharge port for 7/8-14 UNF-2B SAE O-ring fitting; with steel hex plug	S
Charge pump with external discharge port with straight 7/8-14 UNF; 37 degree flare; tube fitting	T
Charge pump with integral pressure filter; mounted on the -B- port side and external discharge port for 7/8-14 UNF-2B SAE O-ring fitting; with steel hex plug	R
Charge pump with integral pressure filter mounted on the -A- port side and external discharge port for 7/8-14 UNF-2B SAE O-ring fitting with steel hex plug	W
Charge pump with remote pressure filter ports on the -B- port side and external dischargeport for 7/8-14 UNF-2B SAE O-ring fitting with steel hex plug	Y
Charge pump with remote pressure filter ports on the -B- port side	Z

TH-ACA SERIES-EATON

A 1 0 D A 15 0 0 B

15 16 17 18 19 20 21 22 23

Auxiliary Mounting

15

No auxiliary mounting	0
SAE B-pad, no shaft seal and M12x 1.75-6H Thd	1
SAE A-pad. With shaft seal (dry)	A
SAE B-pad. With shaft seal (dry)	B
SAE A-pad. No shaft seal (wet)	C
SAE C-pad. (Typically front pump of tandem) no shaft seal. Includes 14 tooth 12/24 pitch spline coupling. Charge pressure inlet port with 7/8-14 UNF. 37 degree flare. Tube fitting (45 degree for models 33-46 and straight for models 54-64)	E
SAE B-pad; no shaft seal	F
SAE C-pad; (typically front pump of tandem) no shaft seal; Includes 21 tooth 16/32 pitch spline coupling; Charge pressure inlet port with 7/8-14 UNF; 37 degree flare; Tube fitting (45 degree for models 33-46 and straight for models 54-64)	G
SAE C-pad; (typically front pump of tandem) no shaft seal; Includes 23 tooth 16/32 pitch spline coupling; Charge pressure inlet port with 7/8-14 UNF; 37 degree flare; Tube fitting (45 degree for models 33-46 and straight for models 54-64)	H
SAE C-pad; (typically front pump of tandem) no shaft seal; Includes 14 tooth 12/24 pitch spline coupling; With 7/8-14 SAE O-ring port for charge pressure inlet (no fitting provided)(models 54-64)	L

Control Special Features

SAE C-pad; (Typically front pump of tandem) no shaft seal; Includes 14 tooth 12/24 pitch spline coupling; Charge pressure inlet port with 45 deg 7/8-14 UNF; 37 Degree flare; Tube fitting (For models 54-64 Only)	N
SAE C-pad; (Front of tandem) No shaft seal; includes 14 tooth 12/24 Pitch spline coupling; Chg press inlet port with 7/8-14 UNF; 37 deg flare; Tube fitting (45 deg for models 33-64);Chg press gage port 7/8-14 UNF-2A capped	P
SAE A-pad With 11 tooth 16/32 pitch internal spline; No shaft seal (wet)	R
SAE C-pad; (Typically front pump of tandem) no shaft seal; Includes 14 tooth 12/24 pitch spline coupling; Charge pressure inlet port with 7/8-14 UNF; 37 Degree flare; Tube fitting (Straight for models 33-46)	S
SAE C-pad; (Typically front pump of tandem) no shaft seal; Includes 14 tooth 12/24 pitch spline coupling; Charge pressure inlet port on pump centerline with 7/8-14 UNF; 37 Deg flare; Tube fitting (45 degree for models 33-46 and straight for models 54-64)	U

Charge Pump Displacement

16

No Charge Pump	0
13.9 cm³/r (0.85 in³/r)	1
17.4 cm³/r (1.06 in³/r)	2
21.0 cm³/r (1.28 in³/r)	3
27.9 cm³/r (1.70 in³/r)	4
34.7 cm³/r (2.12 in³/r)	5

2nd Displacement of Dual Element

17

No Dual Element	0

Charge Pressure Rel Valve Setting

18

None	0
15 bar (220 psi) - Standard	D
16 bar (240 lbf/in²)	E
18 bar (260 lbf/in²)	F
19 bar (280 psi)	G
21 bar (300 lbf/in²)	H
22 bar (320 lbf/in²)	J
23 bar (340 psi)	K
24 bar (350 lbf/in²)	L
26 bar (380 lbf/in²)	M
28 bar (410 lbf/in²)	N

Charge Pump Special Features

19

No charge pump special features	0
Steel core charge pump gasket	A
Steel core charge pump gasket and 90 degree inlet fitting; 1 5/8-12 UN threaded end for 37 degree flare tubing ((1.25) OD tubing; (1.25) ID hose)	B
Steel core charge pump gasket; needle bearing	J

TH-ACA SERIES-EATON

A	1	0	D	A	15	0	0	B
15	16	17	18	19	20	21	22	23

Charge Pump Special Features

20		
	Charge inlet manifold with charge relief valve	M
	Steel core charge pump gasket and charge inlet mainifold with charge relief valve	N
	Charge inlet manifold with external discharge port for 7/8-14 unf sae o-ring port and steel hex plug in inlet port	P

Special Pump Assembly Features

21		
	No special features	00
	Bottom servo piston with 0.0 degree stop	05
	Both servo sleeves have 1/2-20 UNF-2B thread and steel hex bolts	11
	Bottom servo sleeve has 7/8-14 UNF SAE O-ring port with hex steel plug	12
	Model 76 shaft seal and grade 8 bolts in mounting flange to pump housing (models 54-64)	13
	Special thick section end cover gasket	14
	Rear pump unit for tandem pump assembly (no shaft seal)	15
	Hi-Speed rotating group (model 76)	18
	Both servo sleeves have 7/8-14 UNF SAE O-Ring ports and steel hex plugs	32
	Bottom servo piston with externally adjustable stop	39
	Both servo pistons with externally adjustable stops	40
	Model 76 shaft seal	53
	1350 Series end yoke assembled to drive shaft (Pos 8,9 must be Code 40)	58
	1310 Series end yoke assembled to drive shaft (Pos 8,9 must be Code 40)	59
	Metal case drain plug in both ports	67
	Rear pump unit for tandem pump assembly (no shaft seal), both servo pistons with externally adjustable stops	79
	Rear pump unit for tandem assembly (no shaft seal), top servo piston with externally adjustable stop	82
	Externally adjustable displacement stops set at 3.32 in³/rev (54.4cc/rev)	83

Paint and Packaging

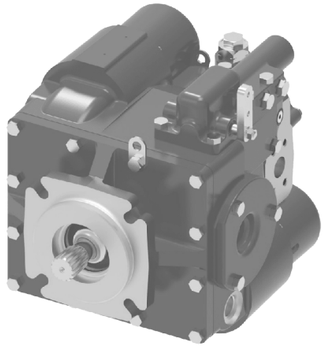
22		
	Painted primer blue (standard)	0
	Painted finish black	A

Identification on Unit

23		
	Standard	0

Design Code

	A	A
	B	B



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VARIABLE DISPLACEMENT PUMP CY

TH-CY	107	Y	-	R	P
	01	02	03	04	05

01 Displacement:

10、16、18、25、28、32、40、
45、55、63、71、80、90、95、
100、107、125、140、160、180、
200、225、250、280、300、320ml/r

02 Controller direction of rotation

M-Fix displacement control
Y-Constant power control
MY-Grading variables control
B-Electro hydraulic
S-Manual control

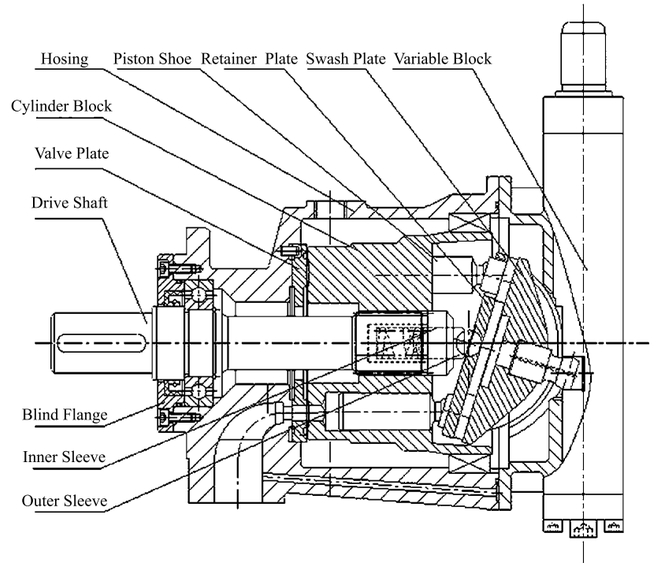
03 Steering (as seen from the shaft end)

R: Clockwise
L: Anti-clockise

04 Shaft end

Metric parallel with key

Construction



TH-QV SERIES VANE PUMP -VICKERS

SINGLE PUMP

(F3-)	**VQ	**	A	(F)	*	*	22	*
Omit if not required	Series designatior	US GPM	Port con -nections	Mounting	Shaft type	Outlet position	Design Number	Rotation
F3-Viton seals	20VQ	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14	A- SAE4 bolt flange	Omit flange mounting	-1 strkey	A-opposite intet pott port	22	Viewed from shaft end of pump
	25VQ	10, 12, 14, 15, 17, 19, 21, 25			-86 Hdsyrkey	B-90° CCW from inlet		
	35VQ	21, 25, 30, 32, 35, 38		F-Foot mounting	-11(151) Spline	C-the inlet on the same side		R-CW L- CCW
	45VQ	35, 42, 45, 50, 57, 60, 66, 75				D-90° CW from inlet		

DOUBLE PUMP

(F3-)	***V	**	A	**	(F)	*	*	22	*
Omit if not required	Series designatior	US GPM	Port con -nections	US GPM	Mounting	Shaft type	Outlet position	Design Number	Rotation
F3-Viton seals	2520VQ	10, 12, 14, 15, 17, 19, 21, 25	A-SAE4 bolt flange	10, 12, 14, 15, 17, 19, 21, 25	Omit flange mounting	-1 strkey	A-opposite intet pott port	22	from shaft end of pump
	3520VQ	21, 25, 30, 32, 35, 38		21, 25, 30, 32, 35, 38		-86 Hdsyrkey	B-90° CCW from inlet		
	4520VQ	35, 42, 45, 50, 57, 60, 66, 75		35, 42, 45, 50, 57, 60, 66, 75			C-the inlet on the same side		R-CW L- CCW
	3525VQ	21, 25, 30, 32, 35, 38		21, 25, 30, 32, 35, 38	F-Foot mounting	-11(151) Spline			
	4525VQ	35, 42, 45, 50, 57, 60, 66, 75		35, 42, 45, 50, 57, 60, 66, 75			D-90° CW from inlet		
	4535VQ	35, 42, 45, 50, 57, 60, 66, 75		35, 42, 45, 50, 57, 60, 66, 75					

TH-QV SERIES VANE PUMP -VICKERS

SINGLE PUMP

(F3-)	**V	**	A	(F)	*	*	22	*
Omit if not required	Series designatior	US GPM	Port con -nections	Mounting	Shaft type	Outlet position	Design Number	Rotation
F3-Viton seals	20V	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14	A- SAE4 bolt flange	Omit flange mounting	-1 strkey	A-opposite intet pott port	22	Viewed from shaft end of pump
	25V	10, 12, 14, 15, 17, 19, 21, 25			-86 Hdsyrkey	B-90° CCW from inlet		
	35V	21, 25, 30, 32, 35, 38		F-Foot mounting	-11(151) Spline	C-the inlet on the same side		R-CW L- CCW
	45V	35, 42, 45, 50, 57, 60, 66, 75				D-90° CW from inlet		

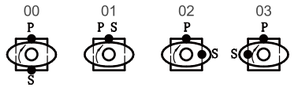
DOUBLE PUMP

(F3-)	***V	**	A	**	(F)	*	*	22	*
Omit if not required	Series designatior	US GPM	Port con -nections	US GPM	Mounting	Shaft type	Outlet position	Design Number	Rotation
F3-Viton seals	2520V	10, 12, 14, 15, 17, 19, 21, 25	A-SAE4 bolt flange	10, 12, 14, 15, 17, 19, 21, 25	Omit flange mounting	-1 strkey	A-opposite intet pott port	22	from shaft end of pump
	3520V	21, 25, 30, 32, 35, 38		21, 25, 30, 32, 35, 38		-86 Hdsyrkey	B-90° CCW from inlet		
	4520V	35, 42, 45, 50, 57, 60, 66, 75		35, 42, 45, 50, 57, 60, 66, 75			C-the inlet on the same side		R-CW L- CCW
	3525V	21, 25, 30, 32, 35, 38		21, 25, 30, 32, 35, 38	F-Foot mounting	-11(151) Spline			
	4525V	35, 42, 45, 50, 57, 60, 66, 75		35, 42, 45, 50, 57, 60, 66, 75			D-90° CW from inlet		
	4535V	35, 42, 45, 50, 57, 60, 66, 75		35, 42, 45, 50, 57, 60, 66, 75					

TH-T6 SERIES VANE PUMP-VICKERS

TH-T6C- ___ - ___ ___ ___ - ___ ___

01 02 03 04 05 06



01 Volumetric Displacement

cm³ / rev (in³ / rev)

X03	X05	X06	X08	X10
10.8(0.66)	17.2(1.05)	21.3(1.30)	26.4(1.61)	34.1(2.08)

X12	X14	X15	X17	X20
37.1(2.26)	46.0(2.81)	50.5(3.08)	58. 3(3.56)	63.8(3.89)

X22	X25	X28	X31
70.3(4.29)	79.3(4.84)	88.8(5.42)	100.0(6.10)

X = 0(Uni-directional); B(Bi-directional); Y(Bi-directional for cold start)

02 Shaft

1 = keyed(SAE B)
2 = keyed(no SAE)
3 = splined (SAE B)
4 = splined (SAE BB)

03 Direction of rotation (Viewed on shaft end)

R = Clockwise **L** = Counter-clockwise

04 Seal class

00 = standard **S** = Suction port **P** = Pressure port

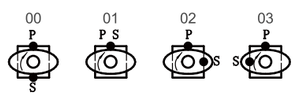
05 Design number

06 Seal class

1 = S1(for mineral oil) **4** = S4(for fire resistant fluids)
5= S5(for mineral oil and fire resistant fluids)

TH-T6D- ___ - ___ ___ ___ - ___ ___

01 02 03 04 05 06



01 Volumetric Displacement

cm³ / rev (in³ / rev)

X14	X17	X20	X24	X28
47.6(2.90)	58.2(3.55)	66.0(4.03)	79.5(4.85)	89.7(5.47)

X31	X35	X38	X42	X45
98.3(6.00)	111.0(6.77)	120.3(7.34)	136.0(8.30)	145.7(8.89)

X50	X60
158.0(9.64)	190.5(11.62)

X = 0(Uni-directional); B(Bi-directional);

02 Shaft

1 = keyed(SAE C)
2 = keyed(no SAE)
3 = splined (SAE C)
4 = splined (no SAE)

03 Direction of rotation (Viewed on shaft end)

R = Right (clockwise)
L = Counter-clockwise

04 Seal class

00 = standard **S** = Suction port **P** = Pressure port

05 Design number

06 Seal class

1 = S1(for mineral oil) **4** = S4(for fire resistant fluids)
5= S5(for mineral oil and fire resistant fluids)

TH-T6 SERIES VANE PUMP-VICKERS

TH-T6E - ___ - ___ ___ ___ - ___ ___

01 02 03 04 05 06

01 Volumetric Displacement

cm³ / rev (in³ / rev)

042	045	050	052	057
132.3(8.07)	142.4(8.69)	158.5(9.67)	164.8(10.06)	180.7(11.02)

062	066	072	085
196.7(12.00)	213.3(13.02)	227.1(13.86)	269.8(16.46)

02 Shaft

1 = keyed(SAE CC)
2 = keyed(no SAE)
3 = splined (SAE C)
4 = splined (SAE CC)

03 Direction of rotation (Viewed on shaft end)

R = Clockwise
L = Counter-clockwise

04 Seal class

00= Standard
S = Suction port
P = Pressure port

05 Design number

06 Seal class

1 = S1(for mineral oil)
4 = S4(for fire resistant fluids)
5 = S5(for mineral oil and fire resistant fluids)

VANE PUMP-VICKERS

TH-VP ___ - ___ - ___
01 02 03

01 Subsidiary Series
1, 2, 11, 22

02 Max. Outlet Flow
Displacement L/min
VP1 = 8,12, 15, 20 **VP2** = 30, 40

03 Operating Pressure Range
35 = 0.8-3.5MPa **55** = 3.0-5.5MPa **70** = 5.0-7.0MPa

TH-PV2R ___ - ___ - ___ ___ ___ ___
01 02 03 04 05 06

01 Code of subsidiary series
1, 2, 3, 4, 21, 31, 22

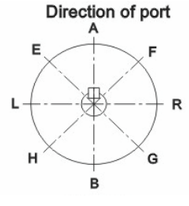
02 Displacement of single or shaft end pump
Displacement ml/r

4	**6**	**8**	**10**	**12**	**14**	**17**	**19**	**23**	**25**
4.3	6.5	8.5	10.8	12.8	14.5	16.2	20.1	22.5	25.3
28	**31**	**26**	**33**	**41**	**57**	**53**	**59**	**65**	**70**
29.6	32.3	25.3	32.3	39.8	49.8	51.5	55.8	63.7	70.3
79	**85**	**52**	**60**	**66**	**76**	**94**	**116**	**125**	**136**
78.1	82.7	51.5	63.7	66.6	75.5	89.5	118	70.3	136

03 Displacement of cover end pump
Displacement ml/r

05 Port Position (Viewed from shaft end)
A, B, L, R = Inlet
A = Outlet of single or shaft end pump
A, B, E, F, G, H, L, R = Outlet of cover end pump

Direction of port



04 Direction of rotation (Viewed on shaft end)
R = Right (clockwise)
L = Left (anti-clockwise)

06 Shaft Diameter
F = Minor shaft (Omitted)
F1 = Major shaft

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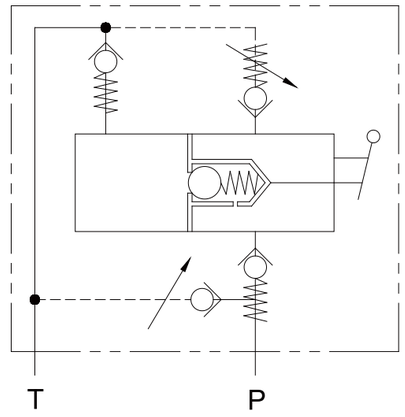
TH HAND OPERATED HYDRAULIC PUMPS

TH-HP121 or TH-HP61



TH-HP121DA65

TH-HP121DA95

MATERIALS:
- Cast Iron Body
- Buna N O'Rings
- Delrin Inlet Seat
- Stainless Steel Piston

FEATURES:
- O'RING PORT to eliminate leakage.
- DELRIN SEAT to seal between tank inlet and piston reservoir.
- O'RING OUTLET CHECK for zero leakage.
- O'RING SEAL between tank and casting.
- STEEL BALL RELEASE VALVE relieves outlet pressure.
- EVERY HP IS TESTED for outlet check leakage, double or single pump action and relief setting.
- OPTIONAL HORIZONTAL MOUNTING BRACKETS allows for horizontal handle actuation.

MOTOR FOR TH SERIES

TH- 01 — HP 02 03 — 04 —

01 PAINT:
Blank – No paint
P – Painted black (other colors available, consult factory)
MP – Epoxy coding

02 DISPLACEMENT PER CYCLE & PUMP ACTION:
22SA – 0.20 in3 (3.3 cm3) and single acting
61DA – 0.60 in3 (9.8 cm3) and double acting
121DA – 1.20 in3 (19.7 cm3) and double acting

03 HAND PUMP MOUNTING:
Omit – Standard vertical mounting
H – Horizontal-mounting brackets (must use 50, 65, 80, or 95 tank option)

04 TANK:
95 – 95 in3 (12 in. height and 1/4" NPT filler plug)
80 – 80 in3 (10 in. height and 1/4" NPT filler plug)
65 – 65 in3 (8 in. height and 1/4" NPT filler plug)
50 – 50 in3 (6 in. height and 1/4" NPT filler plug)
TL – 2 in. tank used in conjunction with customer's external reservoir (1/4" NPT filler port).
NT – Does not come with tank, adjust able relief and release valve. (61DA and 121DA only)
RP – Return port (1/4" NPT return port, cannot be used with the NT option.).

TH-HP-EXAMPLES OF COMMON MODEL CODES:

TH-HP22SA50 .....0.20 in3 (3.3 cm3) displacement, single acting and 50 in3 (819 cm3) tank.
TH-HP61DA95 .....0.60 in3 (9.8 cm3) displacement, double acting and 95 in3 (1557 cm3) tank.
TH-HP121DA65 .....1.20 in3 (19.7 cm3) displacement, double acting and 65 in3 (1065 cm3) tank.

TH-HP-COMPLETE LIST OF OPTIONS AND ACCESSORIES:

TH-HP22-K .....Seal kit for HP22SA.
TH-HP22-K-EPR .....Ethylene propylene rubber (EPR) seal kit for HP22SA.
TH-HP61-K .....Seal kit for HP61DA.
TH-HP121-K .....Seal kit for HP121DA.

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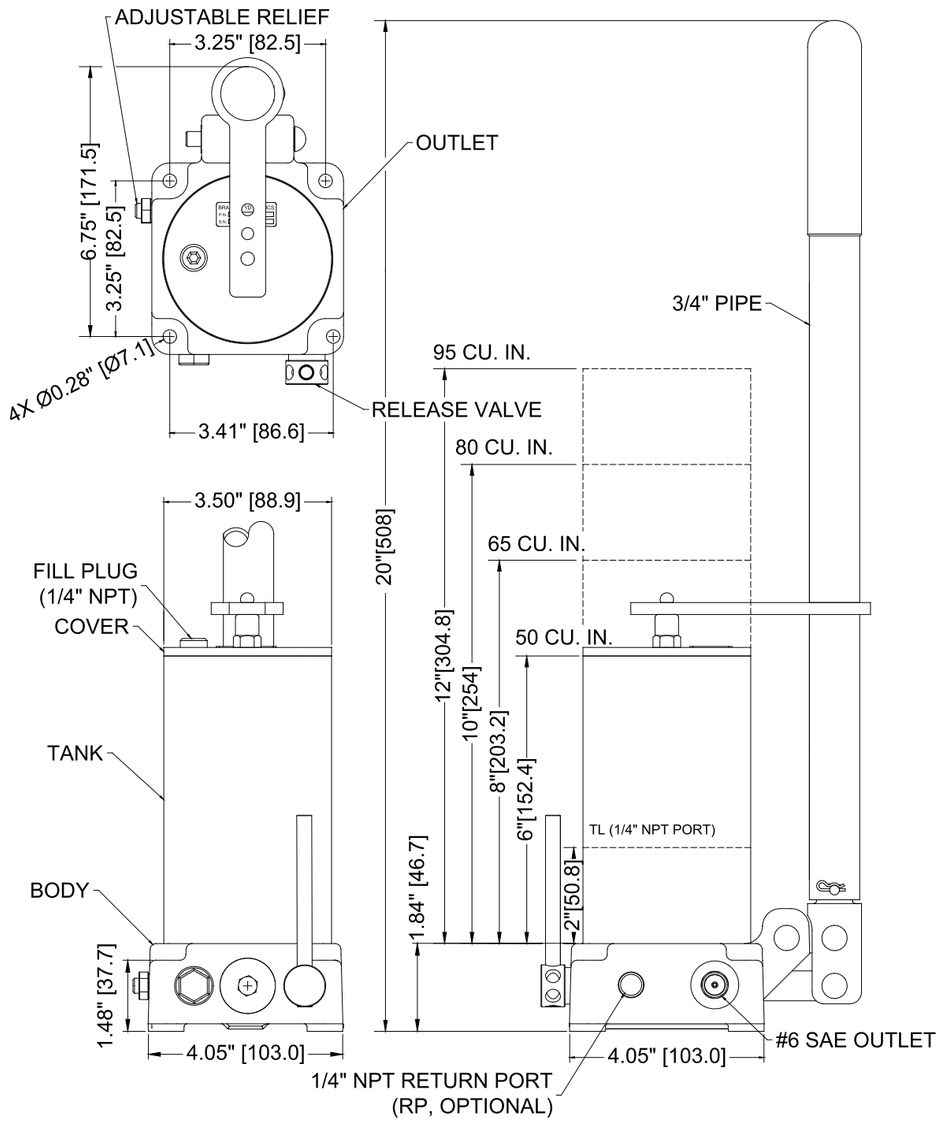
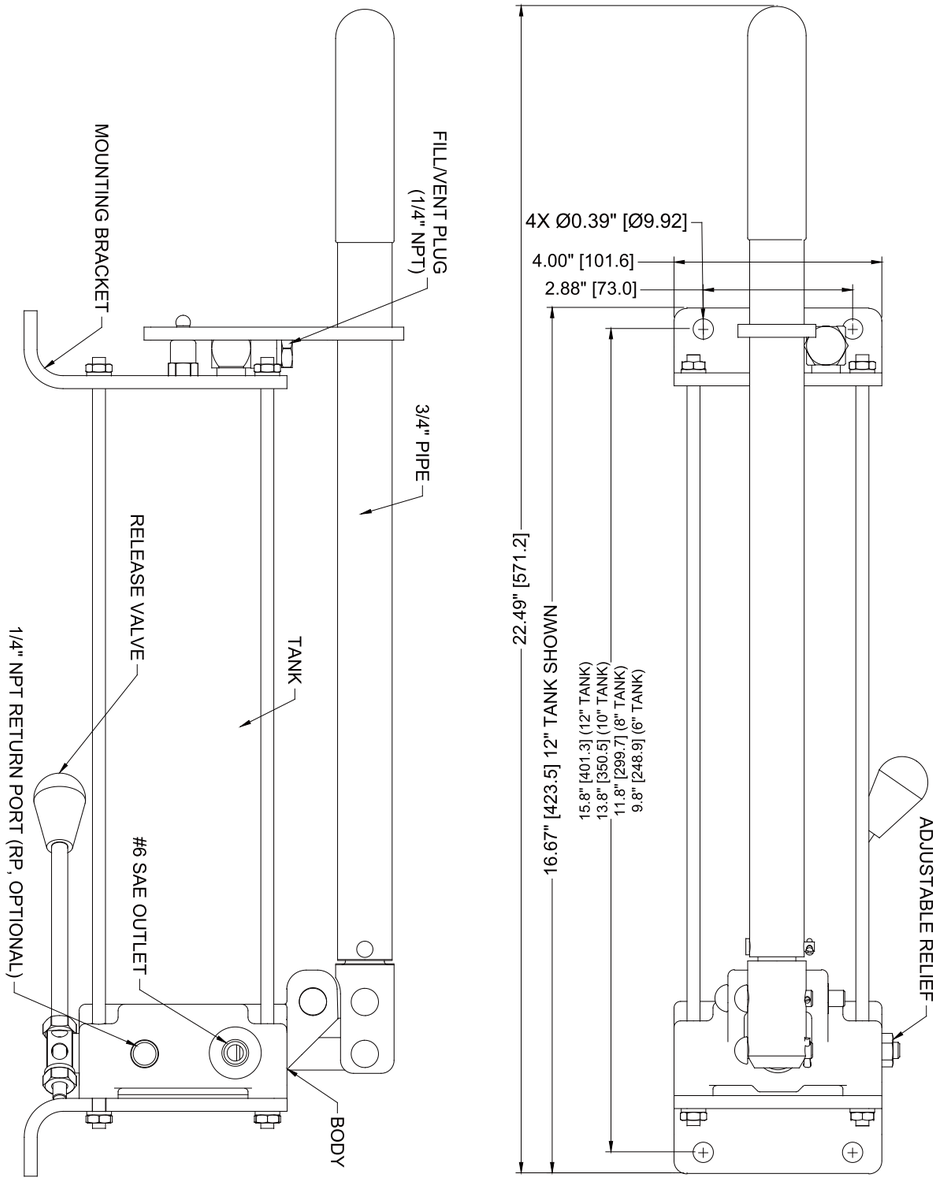
DIMENSIONAL DATA: INCHES & [MILLIMETERS]

DIMENSIONS LISTED ARE THE SAME FOR ALL THREE PUMP SERIES
(HP61DA SHOWN)



DIMENSIONAL DATA: INCHES & [MILLIMETERS]

DIMENSIONS LISTED ARE THE SAME FOR ALL THREE PUMP SERIES
(HP61DA AND HP121DA SHOWN)



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