

THE PRODUCTION LINE OF HANSA-TMP

**Variable Displacement Axial Piston Motor
for Open and Closed Loop System**

TMV 550



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GENERAL INFORMATION

Product Description

The variable-displacement axial piston motors have been designed to work both in an open and closed circuit. Control systems actually available are making easy to use these motors in any applications for industrial and mobile field.

Available control systems are:

- 12V Electrical Control
- 24V Electrical Control
- Remote Hydraulic Servo-Control

The variable-displacement axial piston motors TMV 550 with swash plate system may operate in either closed or open circuit.

Proper selection of materials and the use of steel cylinder blocks with inserted bushings guarantee the high performance of the TMV 550 motors, in terms of max. speed and working pressure.

Characteristics

- Exceptionally high power/weight ratio
- Excellent volumetric and mechanical efficiency
- Long life
- Compact design
- Purge valve fitted as optional (All dimensions remain unchanged)

The very small dimensions allow to fit the motor in restricted space or positions which are difficult with traditional mechanical transmission.

Installation Instructions

- During the assembly check that the motor is in line and concentric with the drive shaft sleeve to prevent overloading of the shaft bearings.
- Clean carefully all tanks and pipes internally before assembly.
- The pipe internal diameter must be suitable for the max. oil speed through the pipes.
- Fit the motor lower than oil level in tank.
- Heat exchanger must be provided in the machine design, to keep temperature level within the limit of 80°C.

First Starting

- Before starting fill all the system components with new and filtered oil.
- Verify that the charge pressure is correct.
- Restore the tank oil level.

Maintenance

To guarantee long life, the motor must work with oil cleaned according ISO 4406 class 18/16/13 ISO 4406 (NAS 9) or better.

- First oil change must be made after approximately 500 hours of operations, and then every 2000 hours.
- The filter cartridge must be replaced the first time after 50 hours and then every 500 hours; such time should be reduced when the filter clogging indicator shows that the cartridge is clogged or when the system works in a heavily polluted environment.



TECHNICAL SPECIFICATIONS

Motor Model			TMV 46XX/23	TMV 50XX/25	TMV64XX/32
Max. displacement	$V_{max.}$	cm ³ /min.	46	50	64
Min. displacement	$V_{min.}$	cm ³ /min.	23	25	32
Max. theoretic specific torque	M	Nm/bar	0,73	0,79	1,02
Flow rating ⁽¹⁾	Q	l/min.	165	180	230
Power rating ⁽²⁾	W	kW	78,5	85,9	109,8
Continuous pressure	$P_{nom.}$	bar		300	
Peak pressure	$P_{max.}$	bar		400	
Max. case pressure	P_{case}	bar		2	
Polar moment of inertia	J	Nm/sec ²	60x10 ⁻¹	60x10 ⁻¹	59x10 ⁻¹
Minimum speed	$n_{min.}$	n/min.		700	
Max. cont. speed with load	$n_{max-cont.}$	n/min.		3.600	
Max. speed without load	$n_{max-int.}$	n/min.		4.000	
Fluid max. temperature	T	°C		80	
Fluid viscosity	ν	mm ² /sec.		15 - 60	
Fluid contamination			18/16/13 according ISO 4406 (NAS 8)		
Mass ⁽³⁾	m	kg	20	20	20
Mounting flange				SAE B	

Notes:

(1) $[V_{max.} \times n_{max.}]$

(2) $V_{max.}$ at 3600 n/min. at 300 bar

(3) Approximate values, can change depending on different regulator

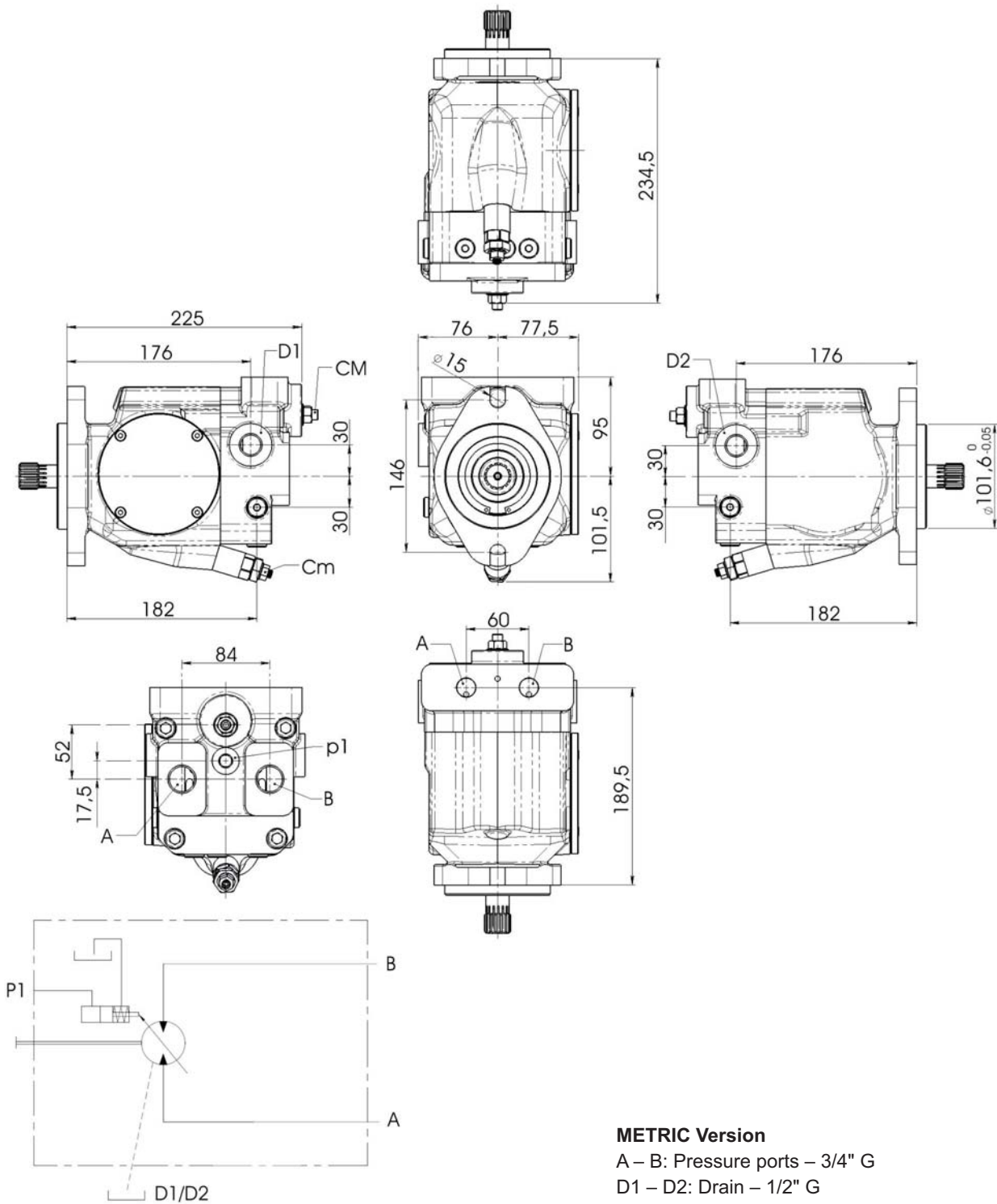
(4) The motor 46, 50 and 64 use the same external housing

Peak operations must not exceed 1% of every minute.

A simultaneous max. pressure and speed are not recommended.

INSTALLATION DRAWING

**Remote Hydraulic Servo-Control
Rear A e B Connection**



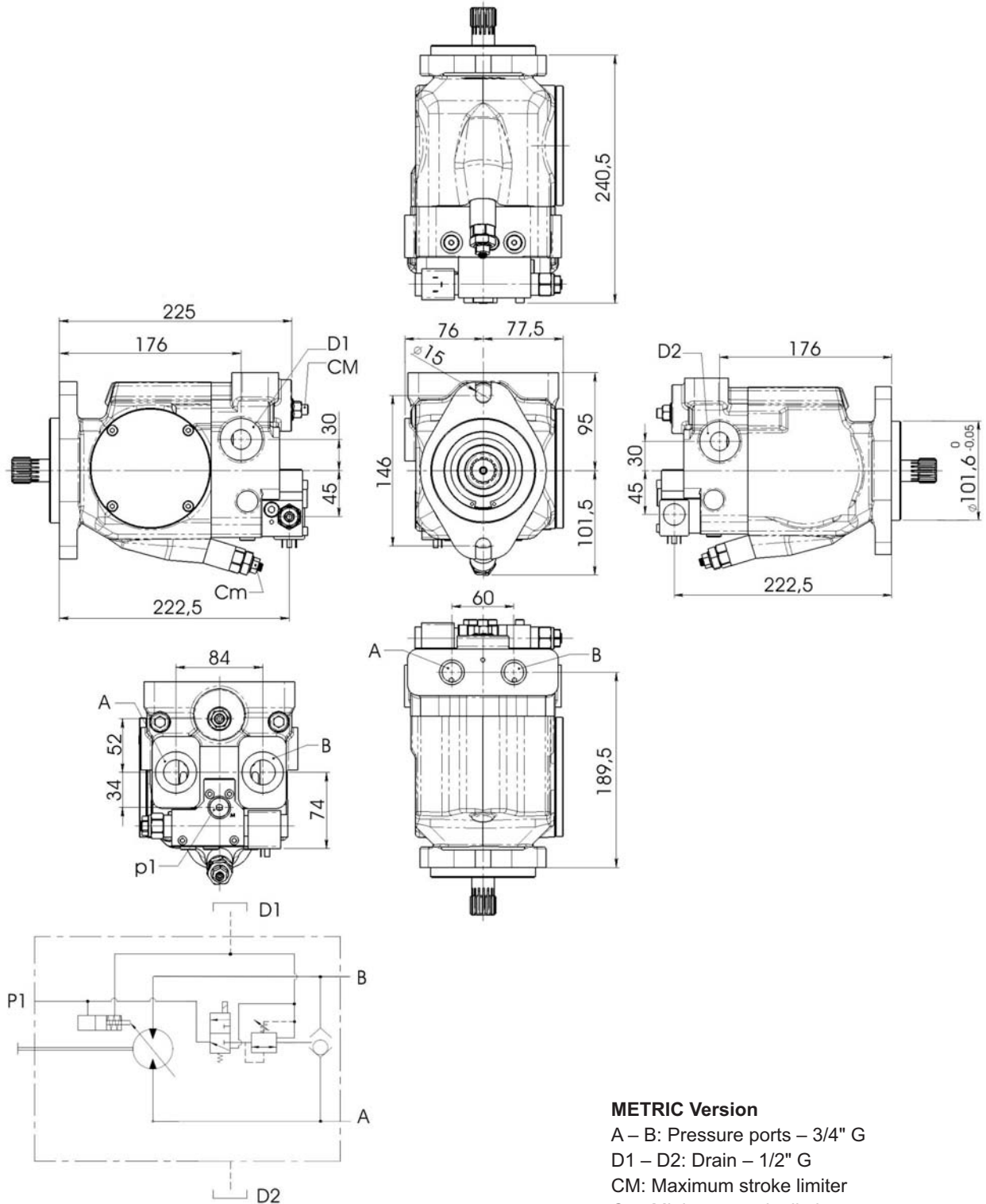
METRIC Version

- A – B: Pressure ports – 3/4" G
- D1 – D2: Drain – 1/2" G
- CM: Maximum stroke limiter
- Cm: Minimum stroke limiter
- P1: Pilote pressure -1/4" G

INSTALLATION DRAWING

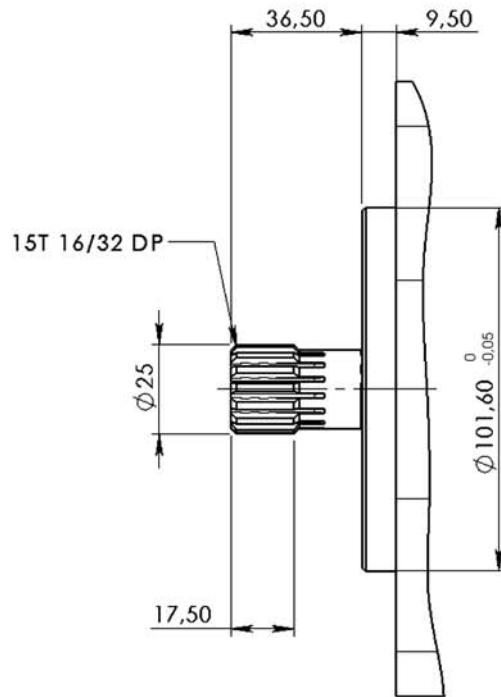
Electrical Control

Rear A e B Connection

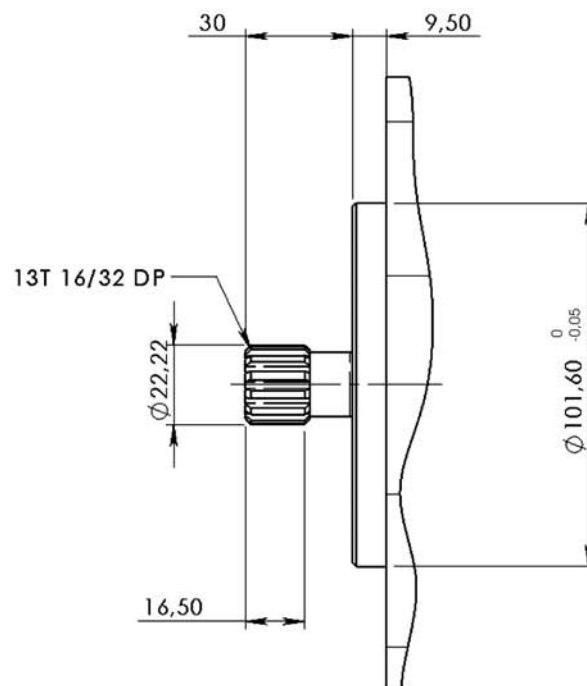


SHAFTS

Type 3 - Male Splined 15T DP 16/32

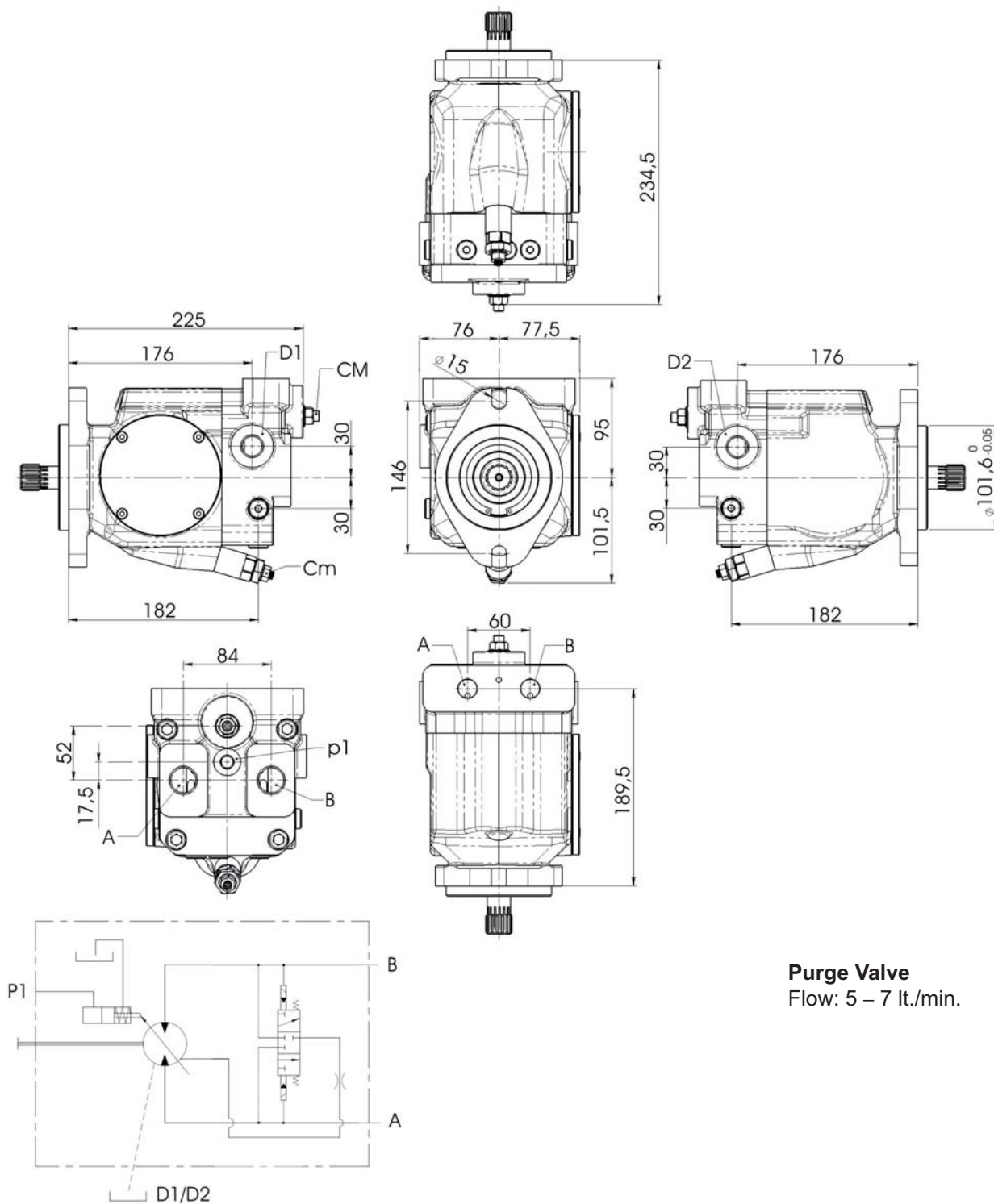


Type 5 - Male Splined 13T DP 16/32



ACCESSORIES

Purge Valve



Purge Valve
Flow: 5 – 7 lt./min.

ORDER CODE

TMV 550	46 XX 23	ID	1	B	3	T	V	-
1	2	3	4	5	6	7	8	9

Pag.

1 - Motor Series

TMV 550 = Variable displacement axial piston motor TMV 550 Series

2 - Motor Displacement (max/min.)

5

46XX/23 = 46 / 23 cm³/n

50XX/25 = 50 / 25 cm³/n

64XX/32 = 64 / 32 cm³/n

3 - Controls

ID = Remote hydraulic servo-control

6

E1 = Electric 12V

7

E2 = Electric 24V

7

4 - Ports

1 = Rear A and B connection

6 - 7

2 = Coupled sideway A and B connection

6 - 7

5 - Rotation Direction

B = Bidirectional (standard)

6 - Shafts

8

3 = Splined male 15 teeth 16/32 DP

5 = Splined male 13 teeth 16/32 DP

7 - Port Versions

U = SAE (UNF thread)

T = A and B ports thread - 3/4" BSPP

8 - Optional (omit if not requested)

- = Without optional

V = Purge valve

9 - Special Versions (omit if not requested)

MOTORS



Axial Piston Motors (Two Speed) - 25-64 cc

Model	Displacement cm ³ /n.	Rated Pressure MPa	Peak Pressure MPa	Maximum speed n/min.	Weight kg
TMV 650 (plug-in)	25, 30, 35, 38, 45	30	35	3.500	15,6
TMV 550	46, 50, 64	30	40	4.000	20



Axial Piston Motors (Fixed Displacement) - 22-110 cc

Model	Displacement cm ³ /n.	Rated Pressure MPa	Peak Pressure MPa	Maximum speed n/min.	Weight kg
TMF 600 (medium duty)	22, 28	35	42	4.200	11,3
	35, 40, 46			4.000	17,8
	50		41	3.600	32,5
	63, 71, 75, 92		42	3.500	
	100		41	3.240	
TMF 900 (heavy duty)	72	40	45	4.100	28
	90			4.000	34
	110			3.800	



Bent Axis Motors - 12-130 cc

Model	Displacement cm ³ /n.	Rated Pressure MPa	Peak Pressure MPa	Maximum speed n/min.	Weight kg
TMB 700	9.6, 12.6, 17.0	35	40	8.000	9
	25.4, 34.2			6.300	
	41.2, 47.1, 56.7, 63.5			5.700	15
	83.6, 90.7			4.700	18
	108.0, 130.0				35

The table values can change in function of the configuration.

As HANSA-TMP has a very extensive range of products and some products have a variety of applications, the information supplied may often only apply to specific situations.

If the catalogue does not supply all the information required, please contact HANSA-TMP.

In order to provide a comprehensive reply to queries we may require specific data regarding the proposed application.

Whilst every reasonable endeavour has been made to ensure accuracy, this publication cannot be considered to represent part of any contract, whether expressed or implied.

HANSA-TMP reserves the right to amend specifications at their discretion.



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