



1. INFORMATION ON PUMPS, MEDIUM VOLTAGE (MV) MOTORS AND ASSOCIATED ACCESSORIES DESIGNATION

- 1.1 A **Pump** is a mechanical device used to raise or move liquids, compress gas or force air into inflatable objects such as tires. Pumps are commonly used in the power generation industry, petroleum refineries, mining industry, waste water industry, portable drinking water industry and other industries for different applications. Pumps are generally classified by the way they add energy to a fluid. Broadly speaking there are two types of pumps, namely centrifugal and positive displacement pumps.
- 1.2 A **Medium Voltage (MV) motor** is an electrical device which converts electrical energy into mechanical energy, with a power rating of between 185 kW and 20 000 kW and greater than 1000 volts. These devices are used to drive capital equipment such as pumps, compressors, fans, conveyor belts, mill etc. Capital equipment is operated in environments and industries such as: power generation, petrochemical, water reticulation, mining and general purpose processes. MV motors have a design life of 25 years, provided that they are efficiently used and serviced.
- 1.3 This document provides information about Pumps and MV motors, which are both designated. These two products in most cases are procured as a system and can be procured, repaired, overhauled or maintained individually. Therefore, the designation applies in both circumstances. Table 1 and 2 provide the stipulated minimum threshold for local content and production for Pumps, MV motors and associated accessories. Pumps are categorised by type of pumps whilst MV motors are categorised by components and manufacturing processes.
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Table 1: Minimum Local Content Designated for Pumps



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Category	Type of Pumps	% local content per unit	Minimum Pressure	Maximum Pressure	Sizes
End Suction Centrifugal	Single Stage End Suction Centrifugal Pumps	70%	1 bar	16 bar	DN25 -DN300
	Single Stage End Suction Centrifugal Solid Handling Pumps	70%	0,5 bar	16 bar	DN40- DN400
Multistage Centrifugal	Multi Stage Centrifugal Pumps: medium - high	70%	10 bar	63 bar	DN32 - DN350
Horizontal split casin Pumps	Horizontal split casing Pumps	70%	1 bar	18 bar	DN80-DN300
Vertical Turbine Pumps	Vertical Turbine Pumps: Radial, Mixed, and Axial	70%	0.3 bar	40 bar	DN100-DN500
Positive Displacement	Positive displacement Pumps	70%	5 bar	45 bar	DN25-DN150
	Diaphragm Pumps	70%	2.5 bar	7 bar	DN25 -DN50
Self Priming Centrifugal Pumps	Single Stage End Suction Self-Priming Pumps	70%	0.3 bar	16 bar	DN25-DN150
Slurry Pumps	Vertical Cantilever Slurry Pumps	70%	1 bar	10 bar	DN40-DN300
	Single stage Slurry Pumps	70%	0.5 bar	50 bar	DN32-DN300
Vaccuum Pumps	Liquid ring vacuum Pumps	70%	1.13 CFM	950 CFM	
Centrifugal Process Pumps	Vertical Spindle Centrifugal Process Pumps	70%	0.3 bar	40 bar	DN25-DN300
	Single Stage Centrifugal Process Pumps	70%	0.3 bar	40 bar	DN25-DN300
	Single Stage Centrifugal Chemical Pumps	70%	0.3 bar	25 bar	DN25 -DN300

Table 2: Minimum Local Content Designated on a Fully-Built Unit and components and the manufacturing processes against which the overall Local Content must be discharged, per Medium Voltage (MV) Motor

Type of MV Motor	Power Rating	Components and Manufacturing Process	% local content
Medium Voltage electric Motor	185kW to 20 000kW and greater than 1 000 Volts	Casting or frame fabrication	100%
		Fabrication and winding of the Stator core	100%
		Fabrication and winding of the Rotor core	100%
		Accessories	100%
		Assembly and testing of the fully built unit	100%
		Total Minimum Local Content (per unit)	100%



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- 1.5 Each individual Pump and/or MV Motor, designated above, is subject to the minimum 70% local content threshold.
- 1.6 The averaging out of local content either across any number of Pumps and/or MV motors combinations, or locally made and imported Pumps, MV motors and other items, is not allowable.
- 1.7 The minimum of 70% local content in the case of each individual Pump must be made up of the following:
 - 1.7.1 a combination of the use of locally produced and certified castings, forgings and/or fabrication, and
 - 1.7.2 verifiable manufacturing activities that shall include as a minimum: machining; drilling; application of wear coatings and lining; painting; assembly and testing with a full material traceability.
- 1.8 All Pumps and MV motors manufacturers may have to adhere, inter alia, to appropriate and reasonable safety, quality, manufacturing processing standards and accreditation as required by the procuring entities at the time of the procurement based on the required application.
- 1.9 The following primary input materials and components used in the manufacture of Pumps, MV motors and associated accessories are exempted upfront in this designation.
 - 1.9.1 Pumps:
 - a) Ball and Roller bearings
 - b) Rubber for lining pumps
 - c) Mechanical seals
 - d) Steel billets and/or bars used in the fabrication of the shafts
 - 1.9.2 MV Motors:
 - a) Anti-friction bearings
 - b) Electrical steel
 - c) Special copper alloys, insulation material and resin
- 1.10 The designated local content thresholds stipulated in Table 1 and 2 above (on the components/manufacturing processes and on the overall in case of MV motors) apply to new purchases, refurbishments, replacements and general overhauls.
- 1.11 For further information, bidders and procuring state organs may contact the Metals Fabrication, Capital and Rail Transport Equipment unit within the dtic at telephone 012 394 1356/5868/5577 or email localcontent@thedtic.gov.za.



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