Thomas X series of

Extra heavy duty slurry pumps

metso
Expect results

Thomas X series of extra heavy duty

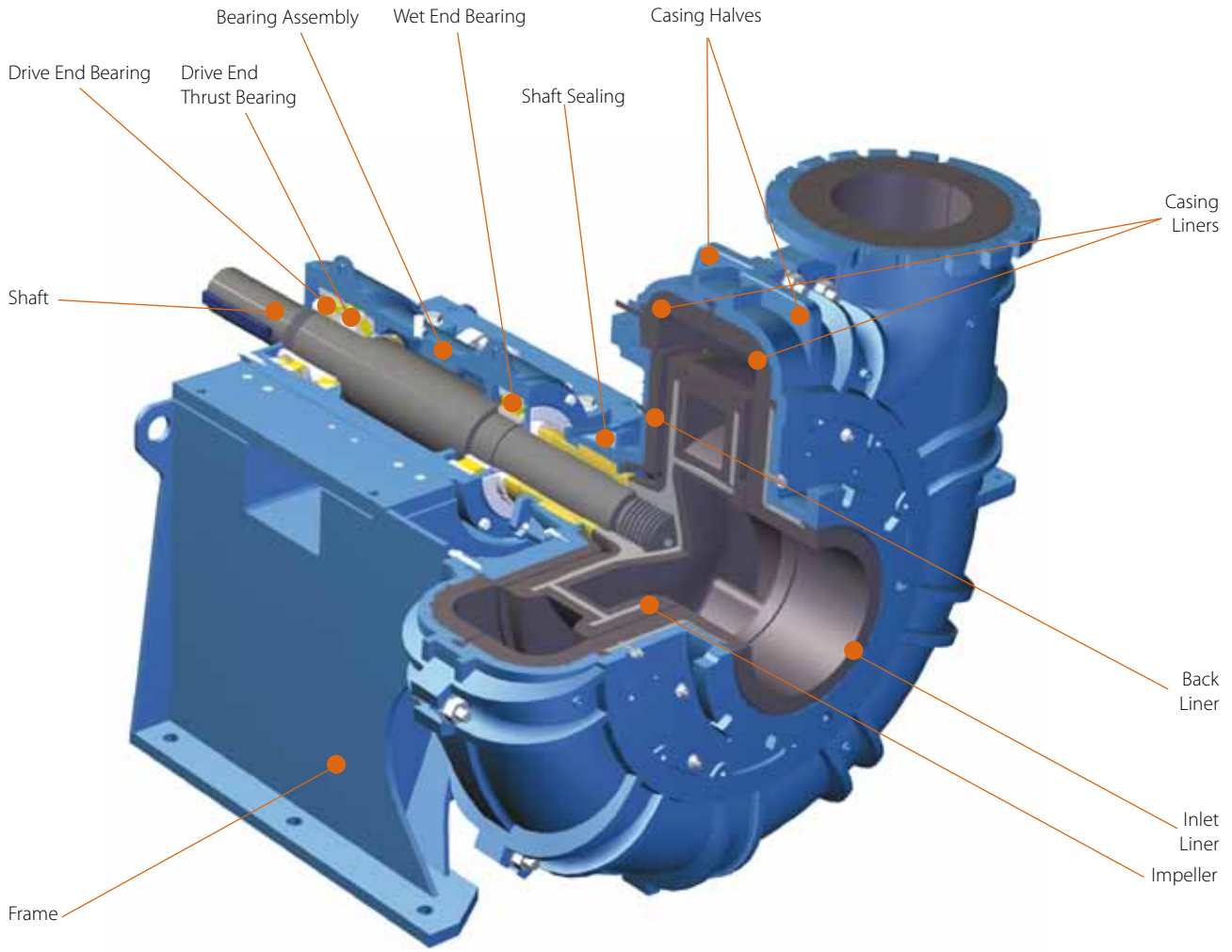
Rubber lined and hard metal slurry pumps

Thomas XR (rubber lined) and XM (hard metal), extra heavy duty slurry pump range is designed for the most arduous pumping applications.
The rugged "wet end" is designed with extra thick metal or rubber sections at points exposed to high wear rate. The high aspect ratio metal or rubber impeller ensures excellent performance with long wear life.

Example of pump designation

XR 400

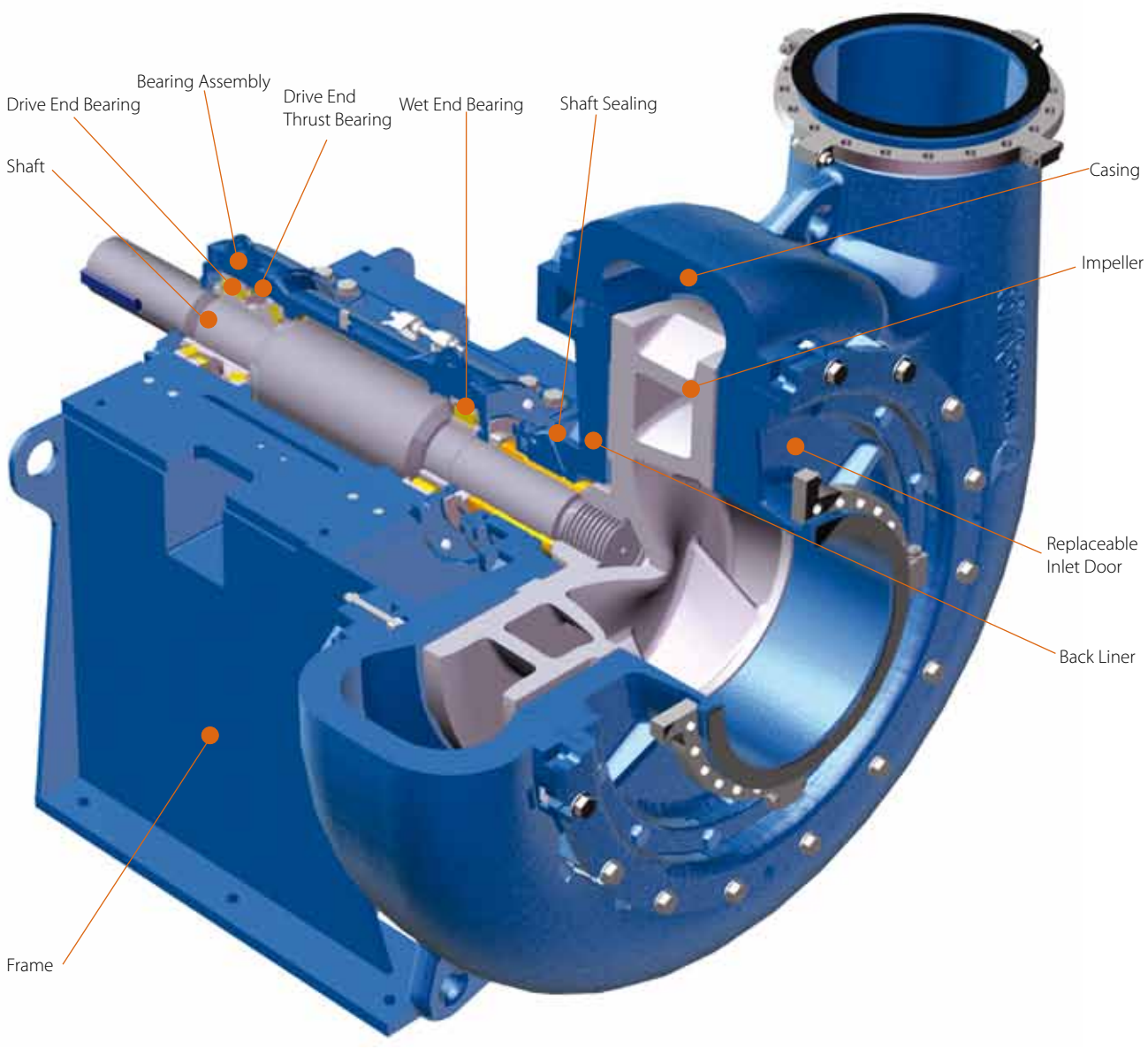
- Inlet Size (mm)
- Pump Range: XR Rubber



XR 400

Summary of design features

- Modular design technology
- Robust construction designed for maximum performance with highly abrassive slurries
- Computer aided designed thick volute casings and heavy duty large diameter impellers, carefully matched, to provide high efficiency hydraulics for even wear and minimum power consumption
- Materials used are the very best available, providing both excellent wear properties and corrosion resistance
- Self contained bearing cartridge assembly with oversized shaft and three anti-friction bearings with oil lubrication
- Various shaft seal options
- Ease of maintenance



XM 700

Details of design features XR & XM

XR 400

XM 700

Modular design

State of the art computer aided design provides an extremely robust, yet compact, end suction pump. The carefully executed modular design technology allows optimum pump and material selection. These pumps operate at or near their highest efficiency, thereby reducing both the rate of wear and the power consumed.

Maximum interchangeability of spares is also ensured, including material options.

Hydraulics

The compact end suction design, with a volute pump casing, provides smooth, highly efficient, hydraulic flow and minimum radial loading.

The heavy duty solids handling impeller, with a high aspect ratio (Impeller diameter/Inlet diameter), combined with carefully matched, high efficiency, hydraulics ensure minimum turbulence, low NPSH required and extended even wear life.

Hydraulic performance is maintained as the pump wears by axially adjusting the impeller, shaft and bearing assembly.

Bearing assembly

The oversized high strength alloy steel shaft is carried in oil lubricated anti-friction bearings mounted in a self-contained cartridge assembly. The cartridge itself fits on to a severe duty bearing frame and is easily replaced with a minimum of down-time.

The three bearing design assures excellent performance under both high axial and radial loads in series and high head applications.

Shaft sealing

The pump has a primary high-performance hydro-
dynamic expeller which effectively seals the gland dry when the pump is running. A secondary grease lubricated packed gland seal prevents leakage when the pump is not running.

Flushed gland seals are available which can be supplied as either a "full flow" or "low flow" gland seal.

Various options of mechanical seals are available upon request.

The materials used in the "wet end" are dependent on the application. The options are the very best available, providing excellent wear properties and corrosion
resistance. The standard impeller material is a High Chrome white iron alloy with a nominal hardness of
600 BHN. The standard rubber liner material is a high-performance natural rubber.

Other material options are available upon request.

Ease of maintenance

The unique "crowbar" or hydraulic operated Slide Base option, combined with the standard "back pull-out" feature, gives immediate access to the rotating assembly and shaft seal without disturbing the inlet and outlet connections.

Motor size

Motor size and V-Belt drive vary with the pump application. Minimum data required for an approximate pump, speed and drive motor selection:

- Slurry flow rate
- Slurry density
- Total dynamic head

Typical installations

- Ball and Rod Mill Discharge / Regrind
- Phosphate Tailings
- Phosphate Matrix
- Abrasive Pulps
- Iron Ore Slurry
- Copper Concentrate Service
- Coal Slurry
- Power Plant Ash Slurries
- Mine Tailings
- Sand

Options

Slide Base

- For ease of maintenace

Motor Mountings

- Side mounted
- Overhead mounted
- Reverse overhead mounted
- Direct in line mounted

Shaft Seals

- Expeller seal
- Full/low flow, flushed, packed gland seals
- Mechanical seal arrangements

Flanged connections and outlet position to suit customer requirements

Details of design features MATRI-X

The Thomas MATRI-X Series Pump range is designed for concentrated slurry hydrotransport applications requiring higher pressure rated pumps.

In addition to the design features of the Thomas "X" series pumps, the MATRI-X series Pumps are standard with a wet end bearing isolator to prevent bearing cylinder contamination.

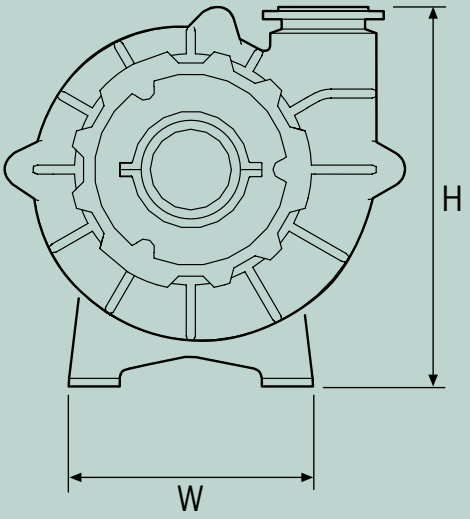
The hydraulic design of the MATRI-X series pumps have enlarged passage ways through the impeller and volute to maintain reduced internal velocities minimizing wear while maximizing pump efficiency and performance and capability of handling large solids.

The MATRI-X series have extremely heavy metal cross sections in their volutes, liners and covers to afford extended wear and high pressure ratings required for the most difficult multiple pump (series) pumping conditions.

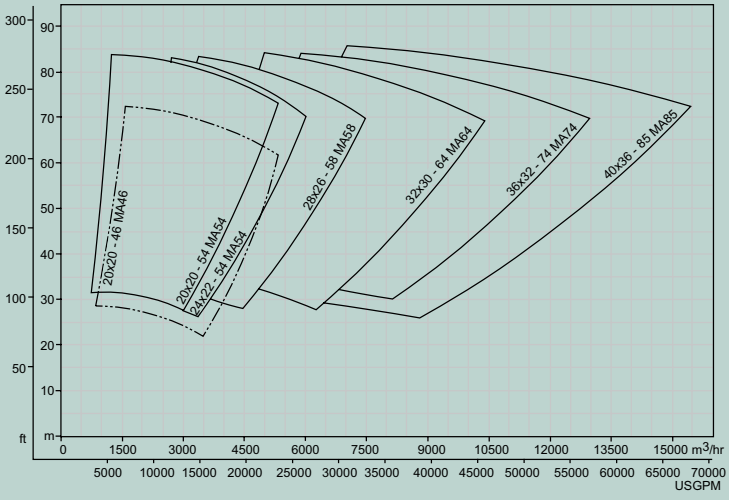
Standard extra heavy duty thrust bearings may be converted to back-to-back thrust bearings where design conditions indicate extreme positive/negative axial loads.

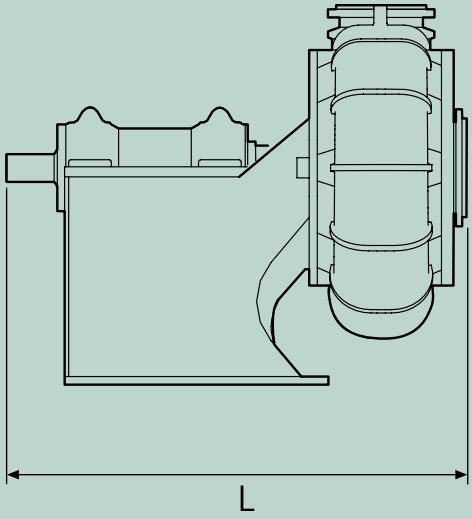
Where maximizing hydraulic efficiency is critical, the MATRI-X Series broad range of pumps can be "duty point engineered" for specific applications.

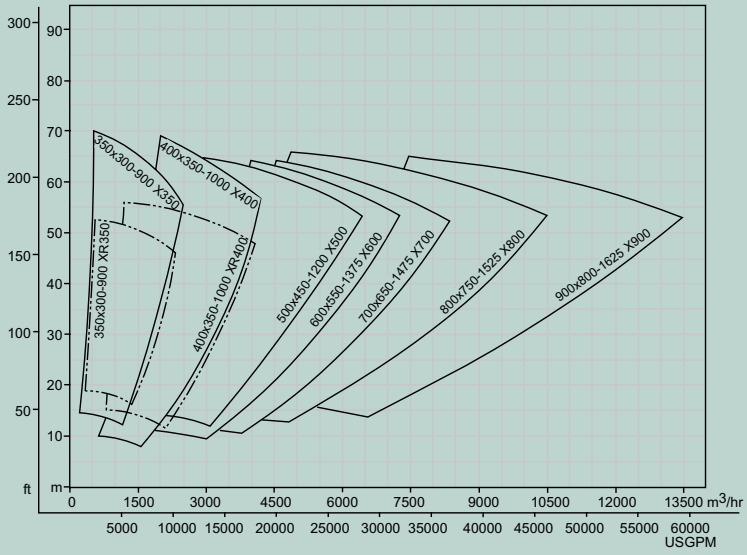
Pump dimensions



Selection of pump size







Model	Inlet		Outlet		H		L		W		Weight*	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	kg	lb
XM350	350	14	300	12	1 727	68	1808	71	1 110	44	5 170	11 398
XM400	400	16	350	14	1 881	74	1980	78	1 204	47	6 950	15 323
XM500	500	20	450	18	2 150	84	2 145	84	1 380	54	9 790	21 548
XM600	600	24	550	22	2 468	97	2 308	91	1 566	61	15 100	33 290
XM700	700	28	650	26	2 560	100	2 324	91	1 565	61	18 200	40 124
XM800	800	31.5	750	29.5	3 020	119	2 997	118	1 565	61	21 818	48 000
XR350	350	14	300	12	1 727	68	1 808	71	1 110	44	4 221	9 305
XR400	400	16	350	14	1 881	74	1 980	78	1 204	47	5 363	11 823

Model	Inlet		Outlet		H		L		W		Weight*	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	kg	lb
MA46	508	20	508	20	2 133	84	2743	108	1380	54	15 909	35 000
MA54	508	20	508	20	2 400	94.5	2 921	115	1 565	61	16 818	37 000
MA58	711	28	660	26	2 794	110	3 048	120	1 565	61	19 090	42 000
MA64	Under development											
MA74	Under development											

* Bare shaft weight

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