

Thomas X series of Extra heavy duty slurry pumps



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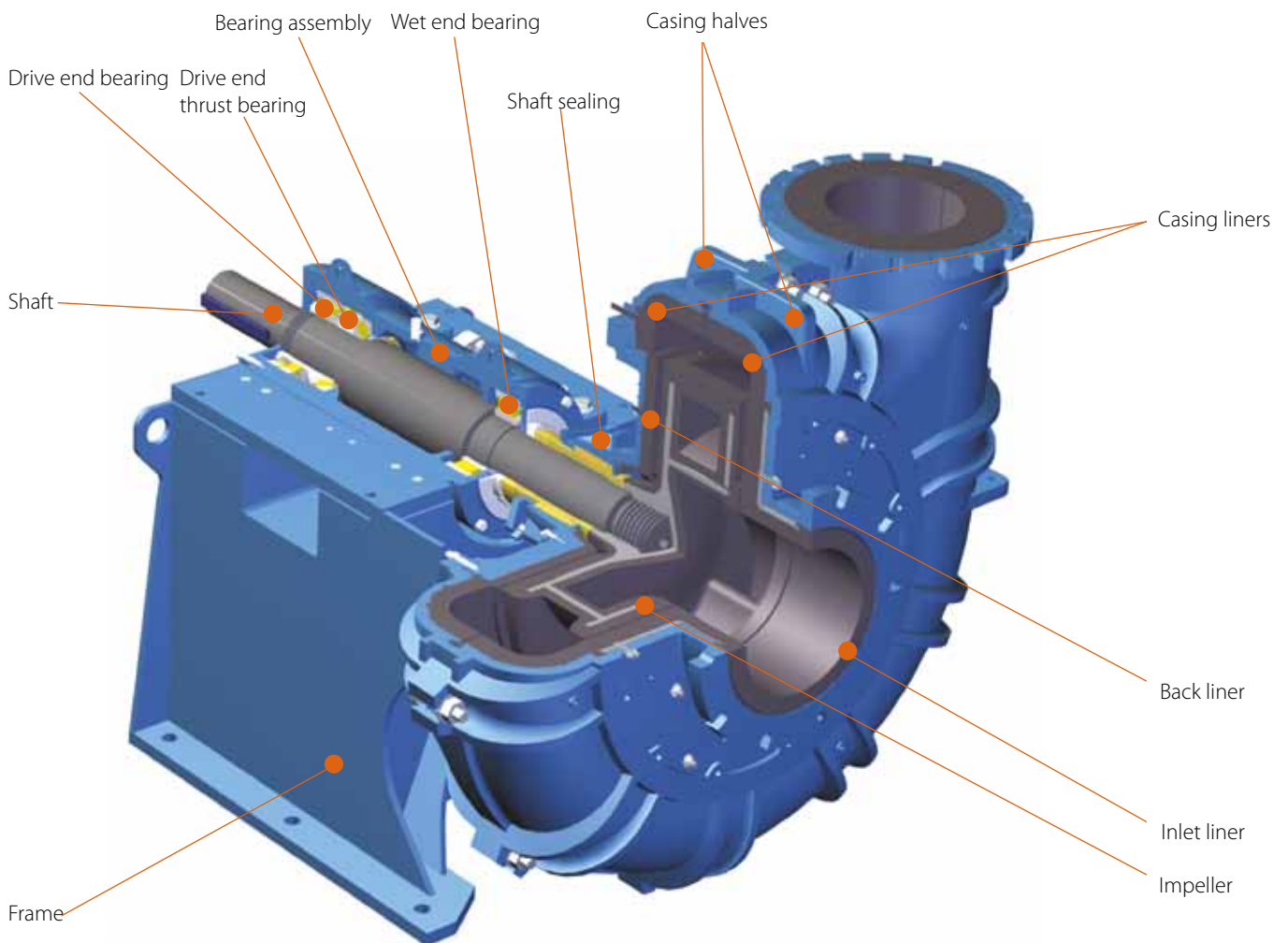
Rubber lined and hard metal slurry pumps

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

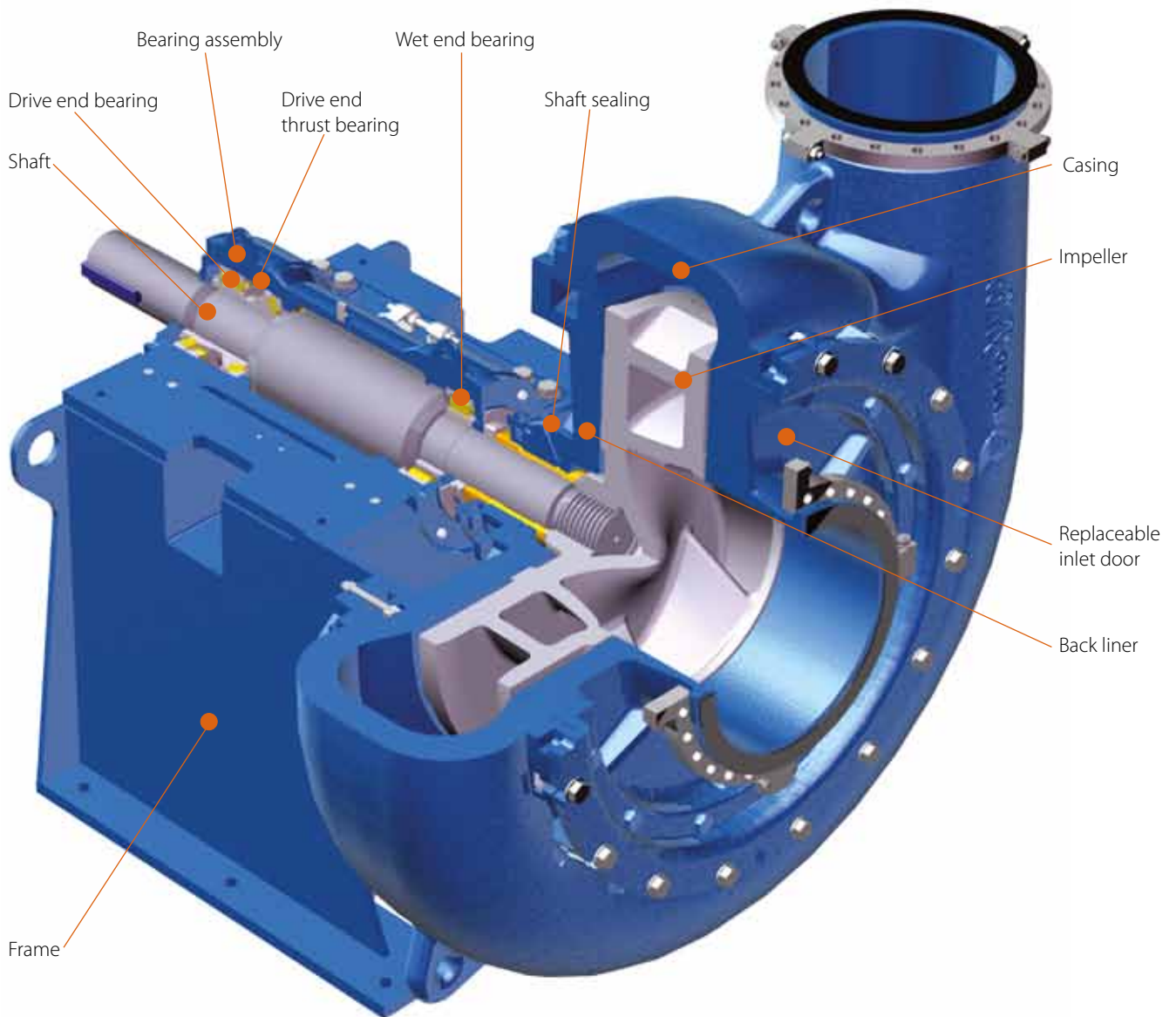
XR 400



XR 400

Summary of design features

- Modular design technology
- Robust construction designed for maximum performance with highly abrasive 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 maintenance

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.

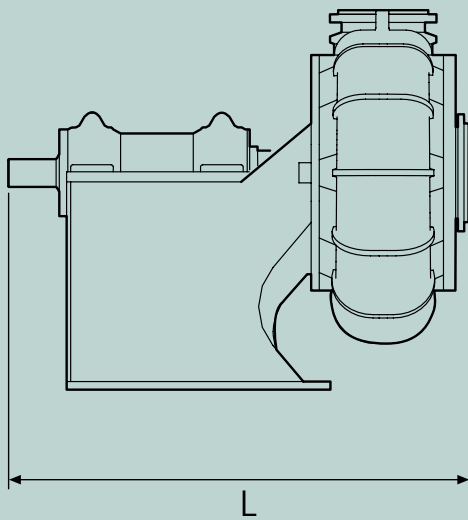
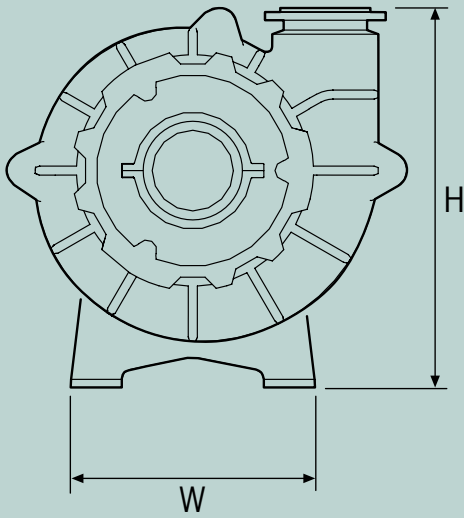
The hydraulic design of the MATRI-X series pumps have enlarged passage ways through the impeller and volute to maintain reduced internal velocities minimizing wear while maximizing pump efficiency and performance and capability of handling large solids.

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.

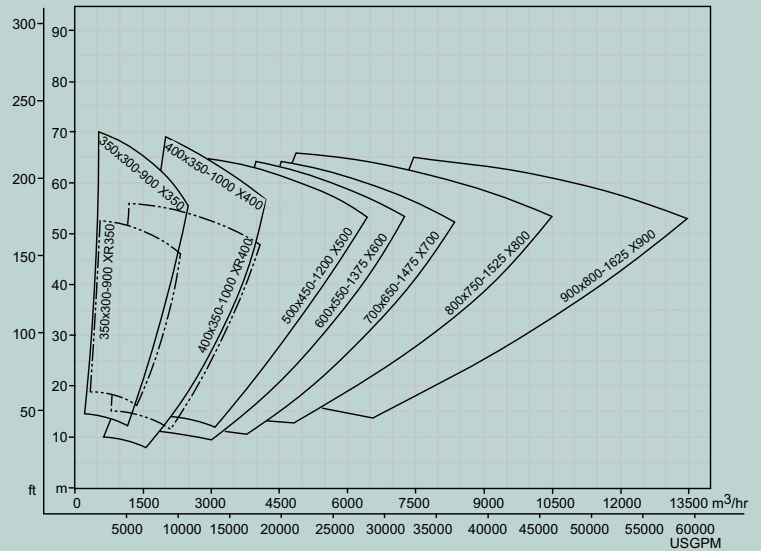
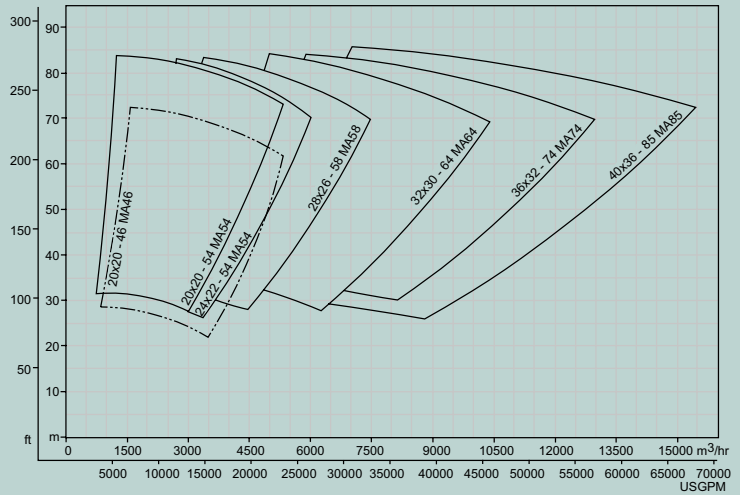
Standard extra heavy duty thrust bearings may be converted to back-to-back thrust bearings where design conditions indicate extreme positive/negative axial loads.

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 | 1 808 | 71 | 1 110 | 44 | 5 170 | 11 398 |
| XM400 | 400 | 16 | 350 | 14 | 1 881 | 74 | 1 980 | 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 | 2 743 | 108 | 1 380 | 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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