

The Thomas "Simplicity" series of  
Dredge pumps





## Thomas “Simplicity” Dredge pumps

The Thomas “Simplicity” dredge pump is engineered for your specific operation.

Years of operation and many design improvements have resulted in a pump which will give you lowest operating cost of any pump in the industry when handling abrasive materials.

The rugged wet-end parts are designed to feature extra heavy metal sections at points of extreme wear – the extra weight pays off in performance and low maintenance cost.

No other dredge pump manufacturer offers the wide range of wear-resistant alloys as provided by Metso. Matching the correct alloy to your specific application will give you the best performance and lowest cost.

### “Engineered for your operation” means:

- A choice of abrasion or impact resistant alloys for wear parts
- Minimum repairs and downtime
- Maximum operating profits
- Maximum production
- Impeller sized for the application
- High efficient dredge pump design

### Special design features make Thomas “Simplicity” dredge pump superior

#### Long life

The heavy, rugged wearing parts permits longer profitable operation before any repairs or change of parts become necessary.

#### Shaft

To meet rugged operating conditions, an oversize, high-strength alloy steel shaft is furnished.

#### Stuffing box and shaft sleeve

An extra deep stuffing box, prevents air-leaks and gives you adequate take-up on the packing gland. All stuffing boxes are equipped with a lantern ring for proper distribution of seal water.

#### Bearings

Heavy duty anti-friction roller bearings are housed in separate radial and thrust assemblies for maximum rigidity and alignment.

#### Wear adjustment

Adjusting screw allows lateral adjustment of impeller, shaft and bearing assembly to compensate for wear, thus maintaining maximum pump efficiency.

#### Designed with your maintenance man in mind

As its name implies, Metso Minerals’ Thomas “Simplicity” Dredge Pump is easy to disassemble and reassemble with new parts.



### Typical applications:

- Dredging:
  - Sand and Gravel
  - Contract Dredging
  - Tailings
- Booster Pump
- Sand waste pump
- Material transfer pump

### Thomas Simplicity pump advantages:

- Choice of several abrasion resistant alloys for wear parts.
- Most efficient volute and impeller designs
- Speed and power to suit your service conditions
- Maximum size and percentage of solids
- Minimal repairs and downtime
- Reduced operating costs
- Easy to assemble and disassemble
- Equipped with Suction Clean-out for easy access to inspect pump



Deck pump



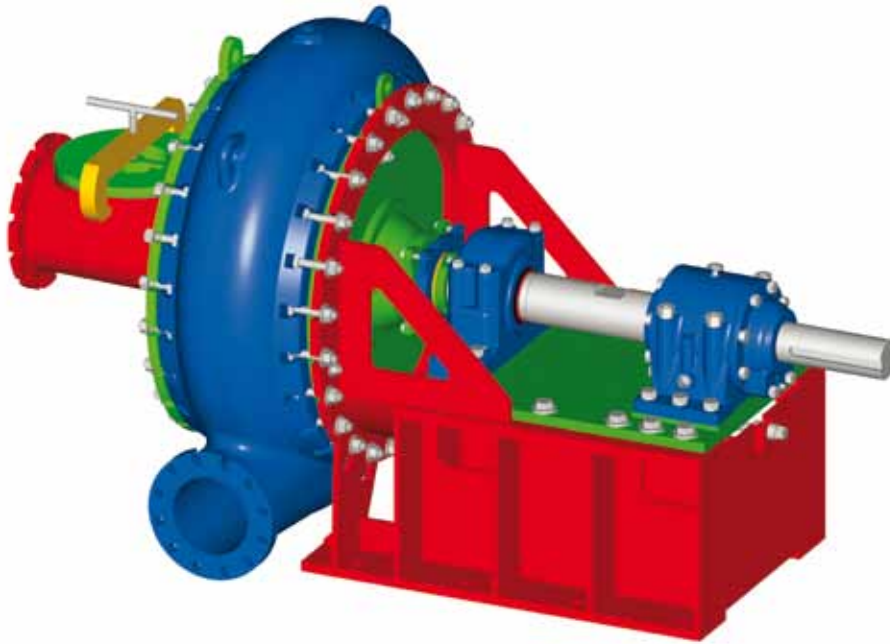
Underwater pump



Booster pump

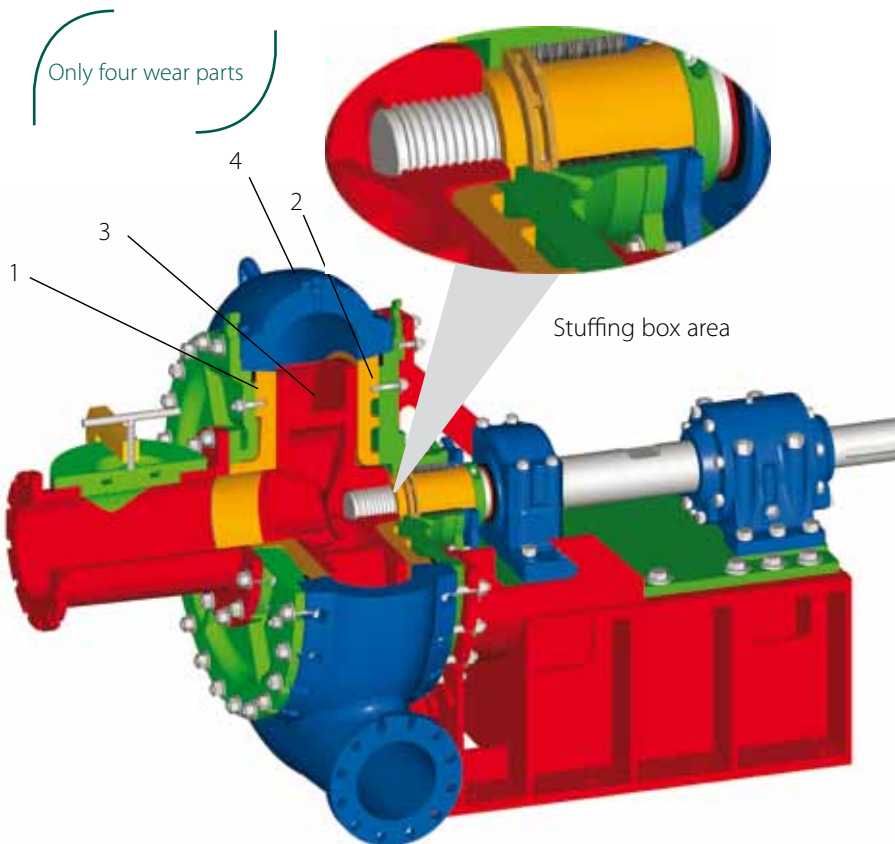
Features and Benefits

# Thomas Simplicity dredge pumps



### Standard features

- Optional rotation – Right or left hand rotation
- Optional discharge positions
- Suction adapter with clean out
- Three and four vane impellers available
- Amor-lok seal on the side liners for metal to metal fit
- Knock out ring for easy impeller removal
- Wide range of alloys for pump wear parts
- Over size bearings and shaft for longer life
- Cantilevered design
  - Better packing and bearing life
  - 360° crescent support
  - No case feet required



### Simplicity design

- Only four wear parts for easy maintenance.
- Extra heavy metal sections for longer wear life and reduced costs.

### Stuffing box area

1. Replaceable lantern ring
2. Deep stuffing box for better sealing.
3. Shaft sleeves available in an alloy to meet your application
4. Casing

Pump bearing arrangement

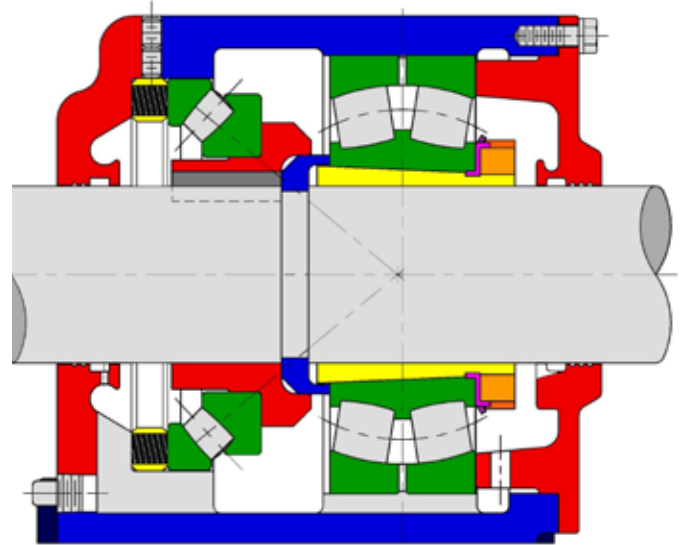
# Deck mounted

Radial bearing



Grease lubricated

Thrust bearing



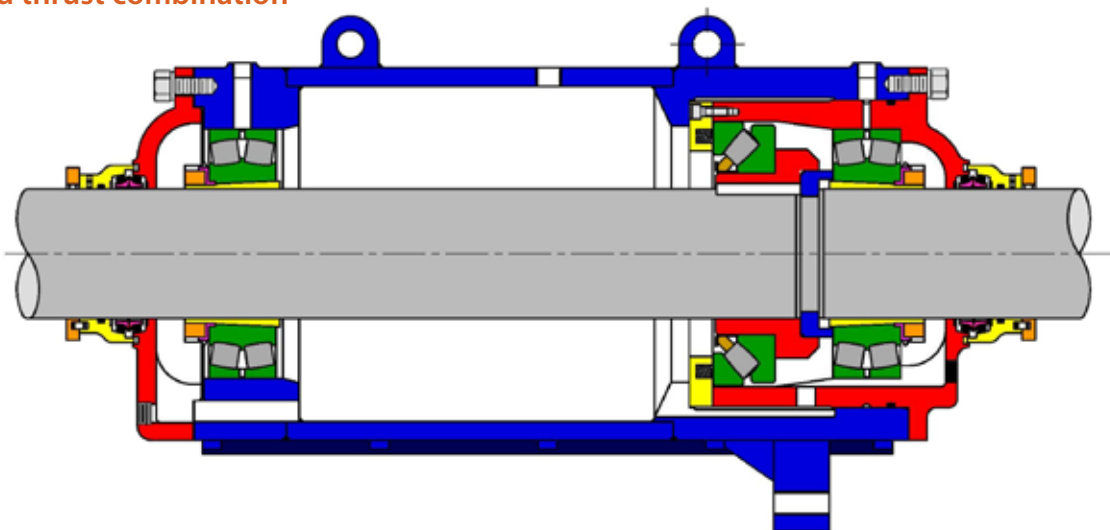
Oil lubricated

- Independent housing for proper lubrication when operating in an unlevel position
- Grease lubricated radial bearing to prevent water entering housing
- Steep angle thrust bearing for high head applications

Pump bearing arrangement

# Underwater

Radial and thrust combination



- Same load capabilities as deck mounted
- One piece housing to prevent water contamination
- Duo-cone seals for sealing shaft

Technical specifications

# Performance chart

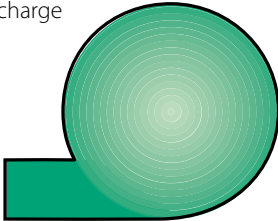
Pump size Size Inches	Impeller Size Inches	Deck Mounted Pumps						Underwater Pumps 17 ft./sec Velocity		
		12 ft./sec Velocity		17 ft./sec Velocity		21 ft./sec Velocity		*GPM	TPH Min.	Max.
		*GPM	**TPH	*GPM	**TPH	*GPM	**TPH			
4	18,00	480	17.6	680	39	830	62	N/A	N/A	N/A
6	24,00	1058	39	1540	88	1900	108	1540	154	193
8	30,00	1880	69	2650	151	3280	246	2650	265	332
10	36,40	2940	108	4160	237	5190	389	4160	416	520
12	36,40	4230	155	6000	342	7390	553	6000	600	750
14	36,40	5160	190	7300	417	9025	700	7300	730	913
16	40,46	6830	250	9600	547	12000	899	9600	960	1200
18	46,00	8640	317	12400	706	15190	1137	12400	1240	1550
20	46,52	10820	397	15400	877	19000	1423	15400	1540	1925
24	52,00	15000	550	22400	1275	28000	2097	22400	2240	2800

\* Gallons per minute \*\*Tons per hour of coarse sand

## Discharge positions available in all sizes

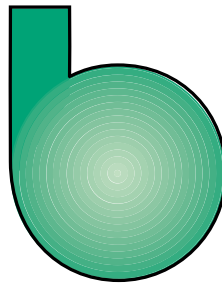
(Hand of pump facing suction side)

Left-hand  
Bottom  
discharge



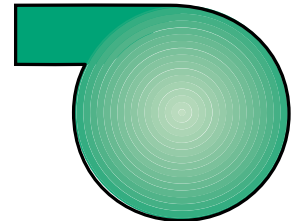
Left-hand rotation

Left-hand  
Top vertical  
discharge



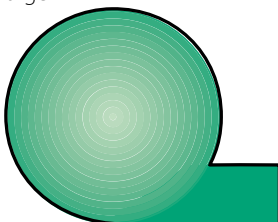
Left-hand rotation

Left-hand  
Top horizontal  
discharge



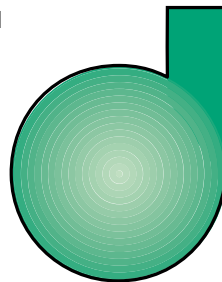
Right-hand rotation

Right-hand  
Bottom  
discharge

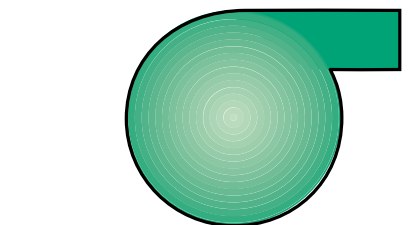


Right-hand rotation

Right-hand  
Top vertical  
discharge



Right-hand rotation



Left-hand rotation

## Technical specifications

## Available pump models &amp; sizes

Pump model	No. of vanes	Max material size
8x6 F24	3	4.5"
8x6 F24	4	4.0"
10x8 H30	3	6.0"
10x8 H30	4	5.5"
12x10 J36	3	6.7"
12x10 J36	4	5.8"
14x12 L40	3	6.9"
14x12 L40	4	6.0"
16X14 N40	3	6.9"
16X14 N40	4	6.0"
18X16 P40WD	3	9.8"
18x16 P40WD	4	7.4"
18x16 P46	3	9.8"
18x16 P46	4	7.4"
22x20 T46WD	3	12.5"
22x20 T46WD	4	8.5"
22x20 T52ND	4	9.0"
22x20 T52WD	3	12.5"
22x20 T52WD	4	10.0"
24x24 T52WD	3	12.5"
24x24 T52WD	4	10.0"



- **Metso Minerals (Sweden) AB**  
Norrängsgatan 2, SE-733 38 Sala, Sweden, Phone: +46 224 374 00, Fax: +46 224 169 69
- **Metso Minerals Industries Inc.**  
621 South Sierra Madre, Suite #100, Colorado Springs, CO 80903, USA, Phone: +1 719 471 3443, Fax: +1 719 471 4469
- **Metso Minerals Industries Inc.**  
P.O. Box 96, Birmingham, AL 35201, USA, Phone: +1 205 599 6600, Fax: +1 205 599 6623
- **Metso Minerals (South Africa) (Pty) Ltd.**  
Private Bag X2006, Isando, Johannesburg, 1600, South Africa, Phone: +27 11 961 4000, Fax: +27 11 397 2050
- **Metso Minerals (Australia) Ltd.**  
Level 2, 1110 Hay Street, West Perth, WA 6005, Australia, Phone: +61 8 9420 5555, Fax: +61 8 9320 2500
- **Metso Minerals (India) Pvt Ltd**  
1th floor, DLF Building No. 10, Tower A, DLF Cyber City, Phase - III, Gurgaon - 122 002, India, Phone: +91 124 235 1541, Fax: +91 124 235 1601
- **Metso Perú S.A.**  
Calle 5 Nro. 144, Urb. Industrial Vulcano, Ate, Lima 03, Peru, Phone: +51 1 313 4366, Fax: +51 1 349 0913
- **Metso Minerals (Chile) S.A.**  
Av. Los Conquistadores 2758, - Piso 3, Providencia, Santiago, Chile, Phone: +56 2 370 2000, Fax: +56 2 370 2039
- **Metso Brasil Indústria e Comércio Ltda.**  
Av. Independência, 2500 Éden, 18087-101 Sorocaba-SP - Brazil, Phone: +55 15 2102 1300



www.metso.com  
E-mail: minerals.info@metso.com  
Pumps information at  
www.metso.com/pumps