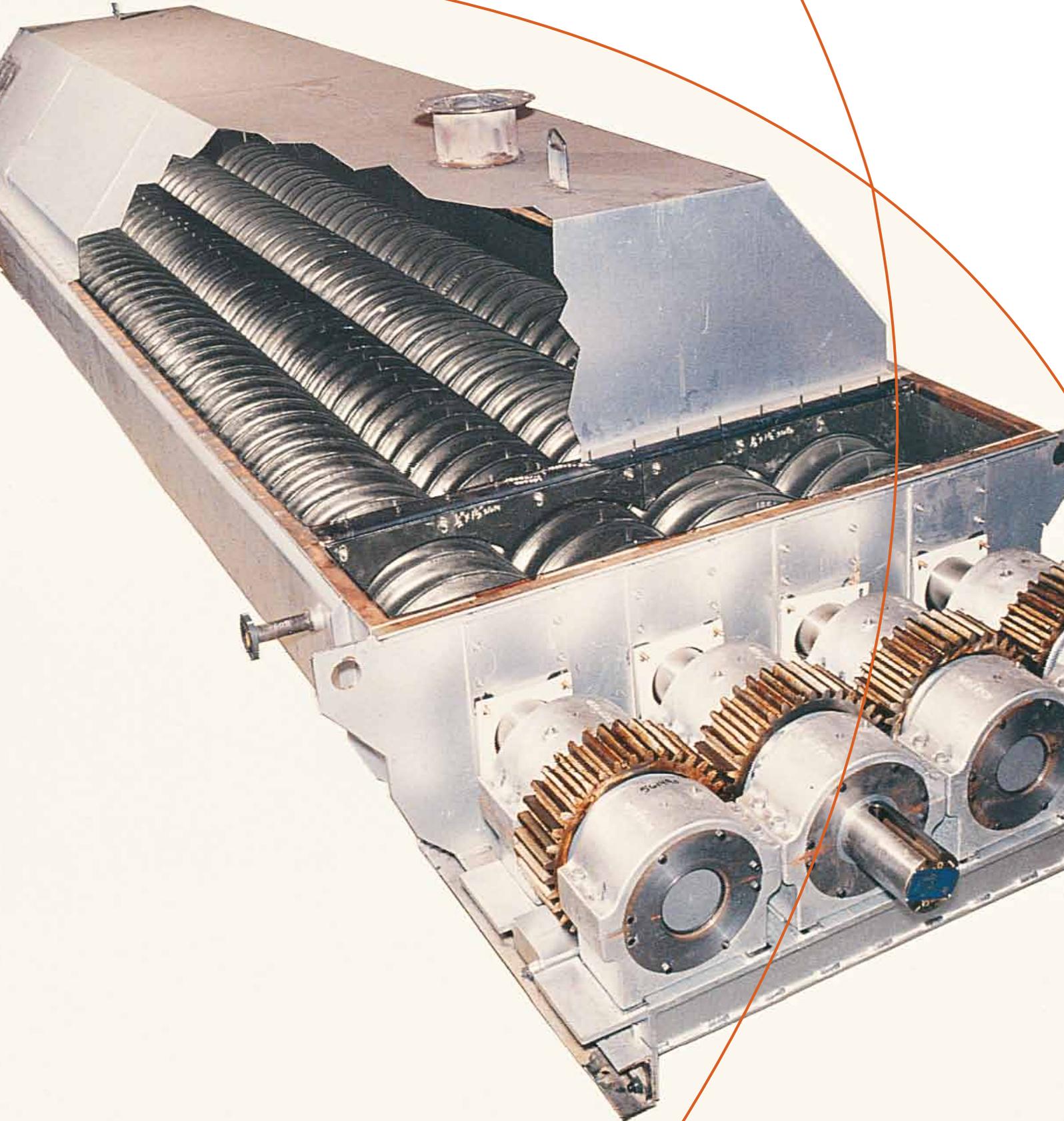


# Holo-Flite<sup>®</sup> Thermal Processor





# Holo-Flite® Thermal Processor

Holo-Flite® is an indirect heat exchanger utilizing a hollow screw for heating, cooling or drying bulk solids, filter cakes, pastes or sludges.

Metso has over 60 years experience in the application design and manufacturing of indirect heat exchanger systems and components. The Holo-Flite® is a proven and efficient thermal processor with over 3,000 installations worldwide.

## Process principle

In the Metso Holo-Flite® processor, individual particles are heated or cooled as they come in contact with the surfaces of the hollow flights, shaft and trough. The product to be processed is continuously conveyed in an axial direction by means of the rotating screw flights along a jacketed trough.

## Indirect heat exchange

The Holo-Flite® processor is an indirect heat exchanger where heat is transferred by conduction from a heat transfer medium through a heat transfer surface to the material being processed.

The heat transfer fluid is normally water, steam or thermal oil. The material processed does not come in contact with the heat transfer medium resulting in little contamination of the product.

## Excellent product temperature control

Since the Holo-Flite® operator has control over heat transfer medium temperature and screw speed, the heat transfer process can be closely controlled. Because the heat transfer medium is normally re-cycled, heat losses are minimized and a high degree of efficiency is achieved.

## Wide range of operating temperature

The raising and lowering of product temperature beyond a narrow range can often exceed the expansion and contraction capabilities of metals and welded joint design. The unique Twin Pad design of the Metso Holo-Flite® accommodates these extreme expansion and contraction variations and allows successful operation of up to 1,200 degree Celsius.

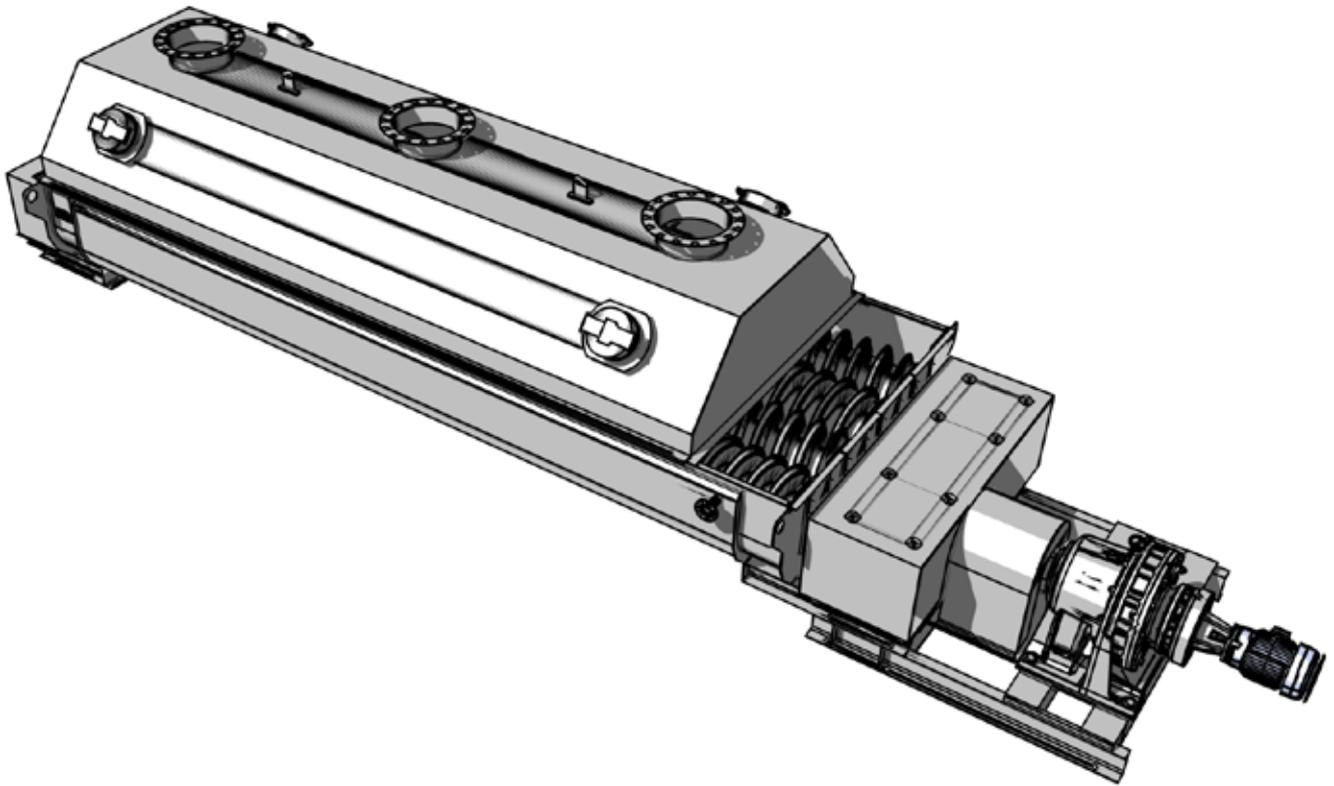
## Effective product conveyance

The Metso Holo-Flite® operates normally at screw speeds of five revolution per minute or less. Low horsepower drives are therefore sufficient and wear on screw and trough are virtually non-existent. At these slow speeds gentle mixing of the product occurs and particle degradation and agitation of fine particles causing dusting are therefore minimized.

## Versatile design

To meet the various application requirements, the Metso Holo-Flite® can be supplied with single, double or quadruple screw configuration.

Additionally, Holo-Flite® units can be manufactured to operate under vacuum or pressure. All units are designed and fabricated per A.S.M.E. Code, Section VIII Unfired Pressure Vessels.



## Process advantages

### Eliminates product contamination

- Heat transfer agent does not come in contact with the product

### Highest thermal efficiency

- Heat transfer agent is continuously recycled

### Economical operation

- Lower power consumption
- Mechanical simplicity
- Continuous operation
- Low maintenance
- No operator required

### Minimal dusting

- Gentle rotation (1-2 rpm) with little outside air in a controlled atmosphere

### Temperature control

- Process materials at closely-controlled temperatures and eliminates hot spots

## Operating advantages

### Patented Twin Pad screw design

- Screw speed and temperature can be changed to accommodate variations in material throughput and thermal requirements
- Flow of heat transfer agent can be co-current or counter-current to the flow of material
- Low horsepower requirements
- Slow screw speeds results in maximum component life

### Holo-Flite® configurations

- Six screw sizes: 7, 12, 16, 24, 30, and 36 inch (18, 30, 40, 61, and 90 cm) diameter
- Holo-Flite® units come with single, double or quad screws
- Various drive arrangements are available to meet individual requirements
- Standard materials of construction are available for abrasive applications
- Design and fabrication per A.S.M.E. Code Section VIII-Unfired Pressure Vessels to 150 psig.

# Laboratory and rental services

Metso can test your product on both a preliminary feasibility or on a full-scale production basis with either a lab-size unit or a production-size Holo-Flite®.

We can perform heating, cooling, drying, cooking and solvent evaporation tests quickly and accurately with your samples.

Metso can also provide Holo-Flite® rental units for in-plant testing.

The units come with self-contained electrical hot oil heater.

All rental units are complete with vapor dome and variable speed drive and are on skids for ease of shipment and installation.

## Applications

### Chemical processing

- Cooling: Calcium carbonate, Caustic flakes, Iron oxide, Sodium triphosphate.
- Drying: Alumina, Carbon black, Sodium Chloride, Plastics.
- Heating: Pesticides, Potassium chloride.

### Industrial power applications

- Heating: Limestone filler, Petroleum coke.
- Drying: Volume reduction of hazardous and non-hazardous wastes.
- Cooling: Incinerator ash, Fluidized bed boiler ash and limestone, coke from a calciner.

### Mineral processing & coal drying

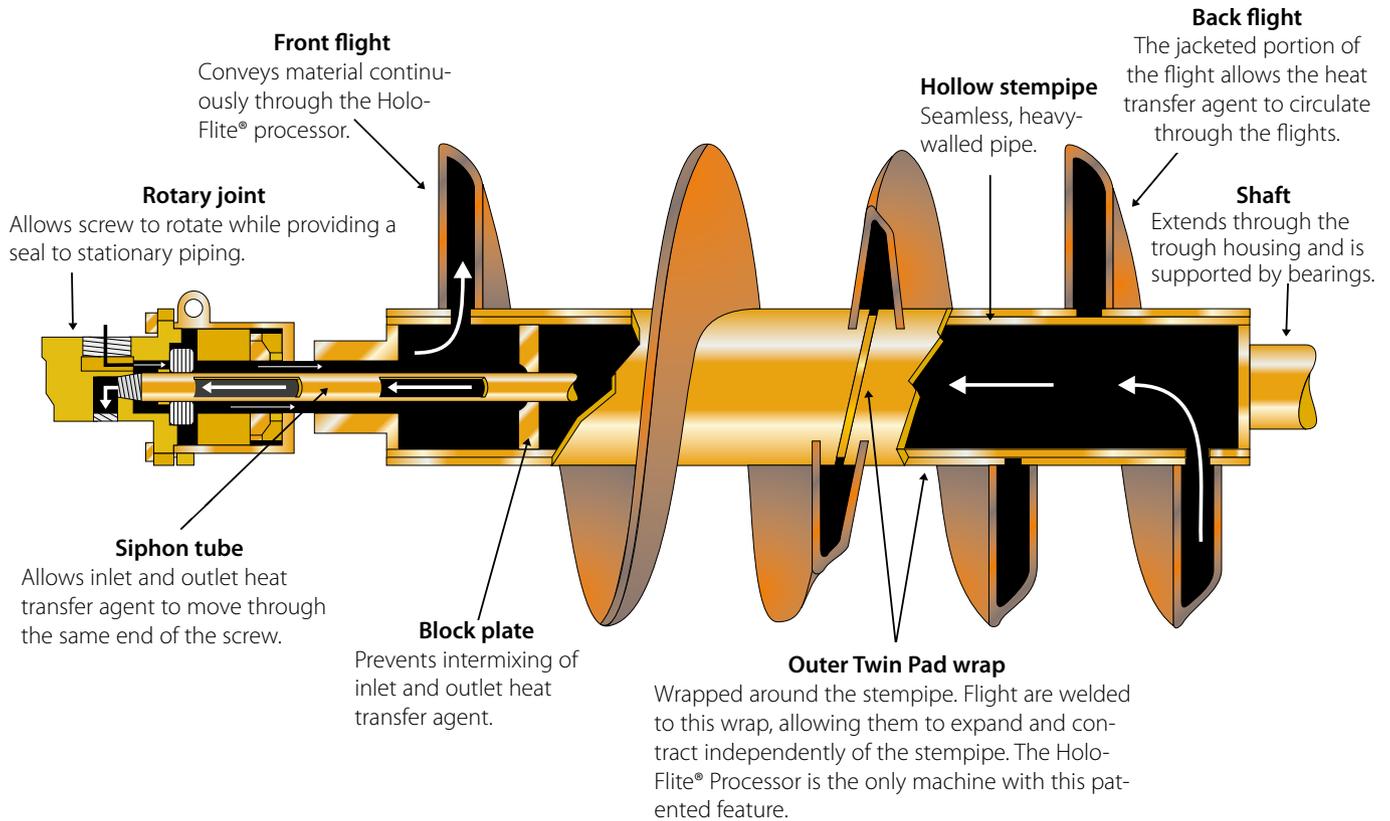
- Drying: Molybdenum and fine coal.

### Food processing and environmental

- Many "one of a kind" heating and drying applications



# Holo-Flite<sup>®</sup> screw construction specifications





Dryer disch end

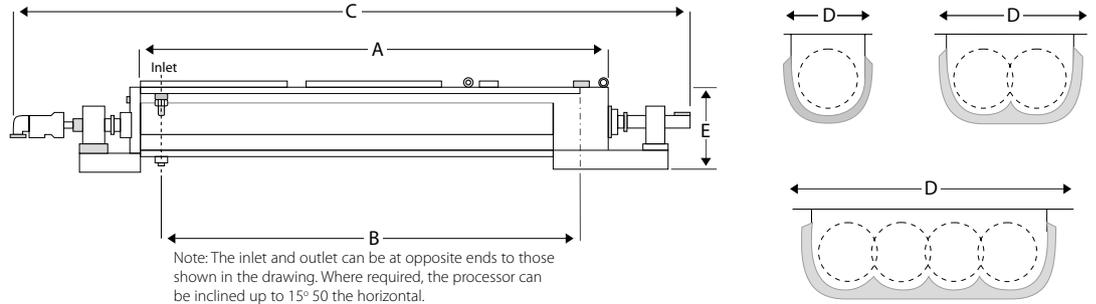


Heater skid

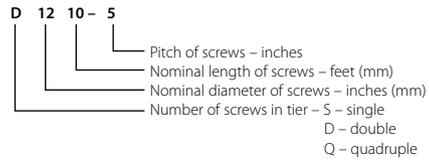
# Technical specification

## Life Cycle Service

Metso offers replacement parts to keep your machine running properly. By having qualified representatives at the office and in the field, we can predict worn screws to keep optimum performance.



Unit size & type designation:  
Each Holo-Flite® processor is designated by a group of numbers and letters arranged to specifically identify the unit as indicated to the right.



Unit size	A) Nominal length	B) C/L Inlet to outlet	C) Overall length	D) Overall width	E) Overall height	Screw area (ft <sup>2</sup> )	Screw diameter
S0710-4	10' (3048)	9'-2 <sup>3</sup> / <sub>16</sub> " (2799)	13'-9" (4191)	1'-0" (305)	1'-1 <sup>3</sup> / <sub>16</sub> " (335)	21	7 3/8" (187)
S0714-4	14' (4267)	13'-2 <sup>3</sup> / <sub>16</sub> " (4018)	17'-9" (5410)	1'-0" (305)	1'-1 <sup>3</sup> / <sub>16</sub> " (335)	30	
D0710-4	10' (3048)	9'-2 <sup>3</sup> / <sub>16</sub> " (2799)	13'-9" (4191)	1'-6" (457)	1'-1 <sup>3</sup> / <sub>16</sub> " (335)	42	
D0714-4	14' (4267)	13'-2 <sup>3</sup> / <sub>16</sub> " (4018)	17'-9" (5410)	1'-6" (457)	1'-1 <sup>3</sup> / <sub>16</sub> " (335)	60	
S1210-5	10' (3048)	8'-6 <sup>13</sup> / <sub>16</sub> " (2611)	14'-9" (4496)	1'-6" (457)	1'-10 <sup>1</sup> / <sub>4</sub> " (565)	39	12 1/2" (318)
S1218-5	18' (5486)	16'-6 <sup>13</sup> / <sub>16</sub> " (5050)	22'-9" (6934)	1'-6" (457)	1'-10 <sup>1</sup> / <sub>4</sub> " (565)	74	
D1210-5	10' (3048)	8'-6 <sup>13</sup> / <sub>16</sub> " (2611)	15'-10" (4826)	2'-4" (711)	1'-10 <sup>1</sup> / <sub>4</sub> " (565)	78	
D1218-5	18' (5486)	16'-6 <sup>13</sup> / <sub>16</sub> " (5050)	23'-10" (7264)	2'-4" (711)	1'-10 <sup>1</sup> / <sub>4</sub> " (565)	148	
S1614-6	14' (4267)	12'-6 <sup>9</sup> / <sub>16</sub> " (3824)	20'-0" (6096)	1'-10" (559)	2'-1" (635)	79	16" (406)
S1618-6	18' (5486)	16'-6 <sup>9</sup> / <sub>16</sub> " (5043)	24'-0" (7315)	1'-10" (559)	2'-1" (635)	106	
D1614-6	14' (4267)	12'-6 <sup>9</sup> / <sub>16</sub> " (3824)	20'-0" (6096)	2'-10" (864)	2'-1" (635)	158	
D1618-6	18' (5486)	16'-6 <sup>9</sup> / <sub>16</sub> " (5043)	24'-0" (7315)	2'-10" (864)	2'-1" (635)	207	
S2414-6	14' (4267)	12'-6 <sup>9</sup> / <sub>16</sub> " (3824)	20'-8" (6299)	2'-6" (762)	2'-10 <sup>11</sup> / <sub>16</sub> " (881)	173	24" (610)
S2424-6	24' (7315)	22'-6 <sup>9</sup> / <sub>16</sub> " (6872)	30'-8" (9347)	2'-6" (762)	2'-10 <sup>11</sup> / <sub>16</sub> " (881)	307	
D2414-6	14' (4267)	12'-6 <sup>9</sup> / <sub>16</sub> " (3824)	22'-0" (6706)	4'-0" (1219)	2'-10 <sup>11</sup> / <sub>16</sub> " (881)	346	
D2424-6	24' (7315)	22'-6 <sup>9</sup> / <sub>16</sub> " (6872)	32'-0" (9754)	4'-0" (1219)	2'-10 <sup>11</sup> / <sub>16</sub> " (881)	614	
Q2418-6	18' (5486)	16'-6 <sup>9</sup> / <sub>16</sub> " (5043)	26'-0" (7925)	7'-1" (2159)	2'-10 <sup>11</sup> / <sub>16</sub> " (881)	906	
Q2424-6	24' (7315)	22'-6 <sup>9</sup> / <sub>16</sub> " (6872)	32'-0" (9754)	7'-1" (2159)	2'-10 <sup>11</sup> / <sub>16</sub> " (881)	1227	
S3022-7	22' (6706)	20'-4" (6198)	29'-4" (8941)	3'-2" (965)	3'-7" (1092)	323	30" (762)
S3028-7	28' (8534)	26'-4" (8026)	35'-4" (10770)	3'-2" (965)	3'-7" (1092)	415	
D3022-7	22' (6706)	20'-4" (6198)	30'-11" (9423)	5'-3" (1600)	3'-7" (1092)	645	
D3028-7	28' (8534)	26'-4" (8026)	36'-11" (11252)	5'-3" (1600)	3'-7" (1092)	829	
Q3022-7	22' (6706)	20'-4" (6198)	30'-11" (9423)	9'-5" (2870)	3'-7" (1092)	1290	
Q3028-7	28' (8534)	26'-4" (8026)	36'-11" (11252)	9'-5" (2870)	3'-7" (1092)	1659	
S3622-8	22' (6706)	20'-4" (6198)	29'-7" (9017)	3'-7" (1092)	4'-4" (1321)	443	35 1/2" (902)
S3628-8	28' (8534)	26'-4" (8026)	35'-7" (10846)	3'-7" (1092)	4'-4" (1321)	570	
D3622-8	22' (6706)	20'-4" (6198)	31'-3" (9525)	5'-11" (1803)	4'-4" (1321)	886	
D3628-8	28' (8534)	26'-4" (8026)	37'-3" (11354)	5'-11" (1803)	4'-4" (1321)	1140	
Q3622-8	22' (6706)	20'-4" (6198)	31'-3" (9525)	10'-7" (3226)	4'-4" (1321)	1773	
Q3628-8	28' (8534)	26'-4" (8026)	37'-3" (11354)	10'-7" (3226)	4'-4" (1321)	2281	



- **Metso Minerals Industries Inc.**  
350 Railroad Street, Danville, PA 17821-2046, USA, Phone: +1 570 275 3050, Fax: +1 570 275 6789
- **Metso Minerals Industries, Inc.**  
2715 Pleasant Valley Road, York, PA 17402, USA, Phone: +1 717 843 8671, Fax: +1 717 845 5154
- **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 13009
- **Metso Minerals (Sweden) AB**  
Norrängsgatan 2, SE-733 38 Sala, Sweden, Phone: +46 224 570 00, Fax: +46 224 169 50

www.metso.com  
E-mail: pyro@metso.com



**Metso Minerals Industries Inc.** 350 Railroad Street, Danville, PA 17821-2046, USA, Phone: +1 570 275 3050, Fax: +1 570 275 6789. [www.metso.com](http://www.metso.com)