Pump Solutions

Trellex® Hose System

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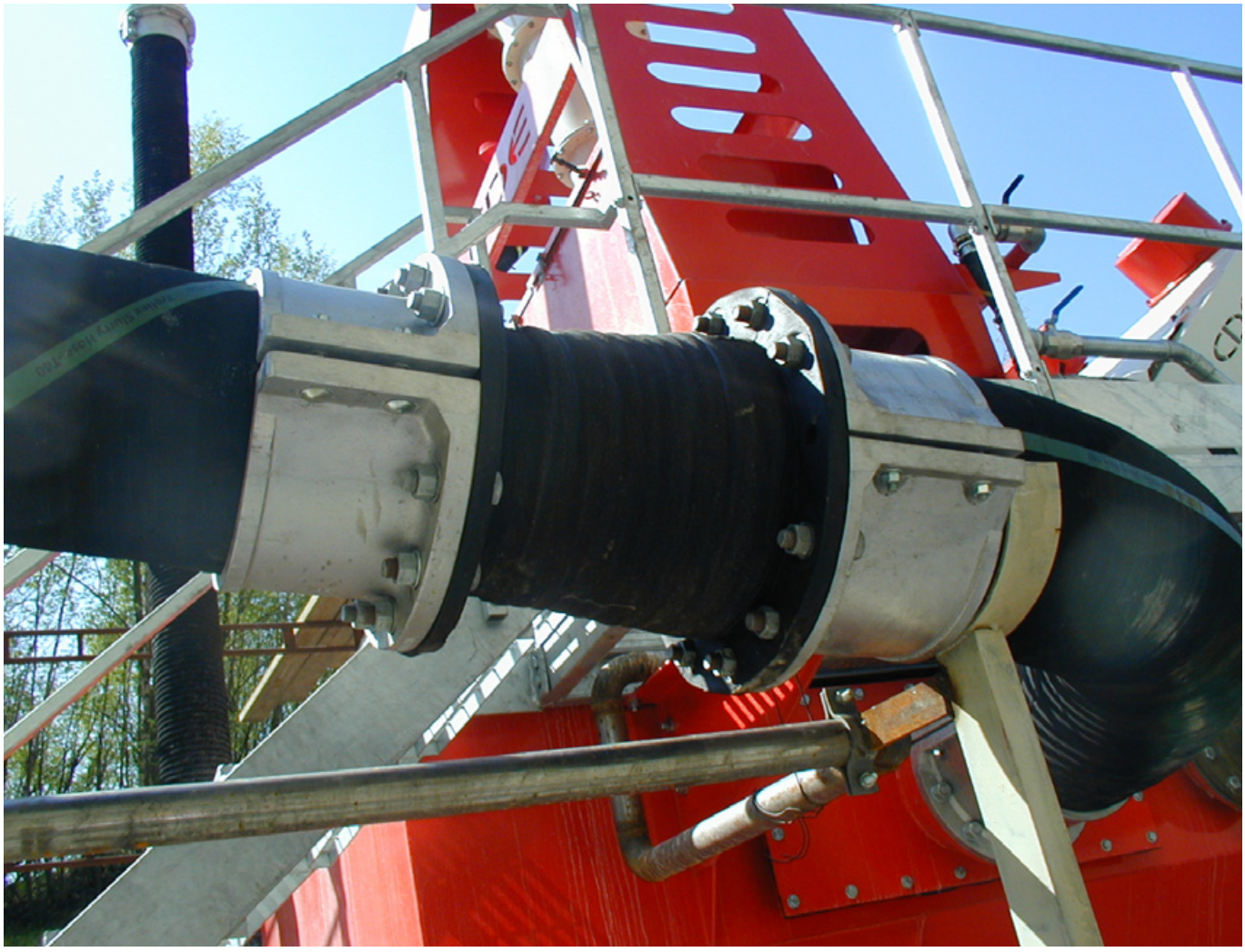


Trellex® Hose System

For heavy-duty use

The Trellex® Hose System is the natural choice for handling materials in heavy-duty hydraulic or pneumatic conveying systems.

The system is designed on the basis of first-hand experience of transporting highly abrasive iron, copper and other metallic or non-metallic ores in mineral processing plants.

Rubber offers superior wear resistance when handling abrasive rocks and sands, as well as slag and other materials.

The Trellex Hose System is used in sand, lime, and glass plants, in quarries, in coal preparation and power plants, as well as in steel and cement works.

Rubber absorbs energy

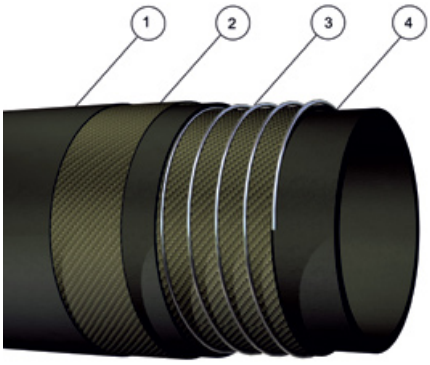
Rubber is an elastomer. While steel and ceramics present a rigid surface to the particles, rubber has the advantage of resilience. The kinetic energy of the slurry generates deformations and cracks on a rigid pipe.

In contrast, the Trellex Hose absorbs the load by yielding, and then returning to its original form. Vibrations from e.g. a pump are dampened.

Appropriate conditions

The angle at which particles strike a surface is decisive for the process of wear. Both laboratory tests and practical experience show that rubber is more resistant than other materials when impacting angle is less than 5°, or greater than 50°.

In slurry lines, the angle of incidence is close to 0°. Process water does not corrode rubber, but instead acts as a lubricant, further decreasing erosion. Trellex Hose are ideally suited for hydraulic transport of abrasive rocks and sands as well as for use in loops in tailing lines to compensate for thermal expansion and contraction of steel pipes.



1. Outer cover 2. Reinforcement 3. Helix 4. Inner tube

Supplied in two types

Trellex Slurry Hose for hydraulic pressure and suction service of abrasive slurries containing particles of up to 20 mm in size, and Trellex Bulk Hose for pneumatic service of abrasive powders and chips of up to 30 mm in size.

Trellex Slurry Hose and Trellex Bulk Hose are both reinforced with polyester cord and a fully embedded spiral of galvanized steel wire. The safety factor against bursting is 3.2 times the working pressure. A smooth outer cover with a fabric texture ensures good resistance to wear and weather. Thick, smooth-walled wear tubes provide low resistance to flow and extremely long life.

Together with the Trellex Coupling and the Trellex Gasket, these hoses form a highly reliable system that retains full flow area with no turbulence at the joints. Spot wear and leaks are eliminated.

Utilizing the Trellex Hose System to its full potential will keep your plant cleaner and further reduce costs by increasing mill availability. Limiting the use to bends only will also limit the extent to which the Trellex Hose System can work to your advantage.

Trellex Slurry Hose for hydraulic applications has a NR wear tube of Trellex 40 rubber. The hose withstands operating temperatures of up to 60-70° C.

Trellex Bulk Hose for pneumatic applications has a SBR wear tube of Trellex 60 rubber. The hose withstands operating temperatures of up to 70-80° C.

Sizes Ø 44-127 mm are supplied in coiled lengths of 20 m. Larger sizes in straight lengths of 10 m. Both Trellex Slurry and Trellex Bulk Hose are available without steel wire spiral, for gravity service only.

ID mm	ID inch	OD mm	Standard length m	Wear tube mm	Working pressure Mpa		Min.bend radius mm	Slurry hose kg/m
44	1.75	64	20	6	1.0		140	2.2
51	2.00	72	20	6	1.0		150	2.4
63	2.50	82	20	4.5	1.0		180	2.6
76	3.00	99.5	20	6	1.0		200	4.1
80	3.15	104	20	6	1.0		210	4.3
90	3.50	113	20	6	1.0		240	4.7
102	4.00	125	20	6	1.0		280	5.4
116	4.50	141	20	6	1.0		340	7
127	5.00	154	20	6	1.0		400	7.5
140	5.50	166	10	6	1.0	Vacuum 90	500	8.6
152	6.00	178	10	6	1.0		600	8.9
180	7.10	212	10	6	1.0		1000	12.6
190	7.50	224	10	7.5	1.0		1150	14.4
204	8.00	238	10	7.5	1.0		1300	16.2
240	9.50	281	10	7.5	0.5		1550	23.8
254	10.00	291	10	7.5	0.5		1600	21.3
305	12.00	341	10	7.5	0.5		1800	26.5
355	14.00	403	10	12	0.5		2200	40.8
405	16.00	456	10	12	0.5	Vacuum 50	2500	46.3
457	18.00	507	10	10.5	0.5		2900	55.2
508	20.00	558	10	12	0.5		3100	64.4
610	24.00	664	10	12	0.5		3700	87.7

The Benefits

- Safety factor 3.2 times the working pressure.
- Smooth outer cover ensures good resistance to wear and weather.
- Thick, smooth-walled wear tubes providing low resistance to flow and long service life.
- Simple installation, No special tools needed.
- Easily configured to meet changes in production environments.
- Less vibrations.
- Lower noise levels.

Trellex® 3xD Bends

Trellex 3xD Bends are intended for use in cramped spaces where the Trellex Hose cannot be sufficiently curved, or e.g. as feed spouts for magnetic separators or other similar equipment. They are available both as 90° and 45° bends, and are supplied in two types.

For optimum wear economy, the outer curve features a > 30 % thicker wear tube than the inner curve.

Straight shanks, extending beyond the 3xD curve, allow fitting of the Trellex Couplings. Trellex Slurry Bends for hydraulic applications have a, NR wear tube of Trellex 40 rubber. The bend withstands operating temperatures of up to 60-70° C.

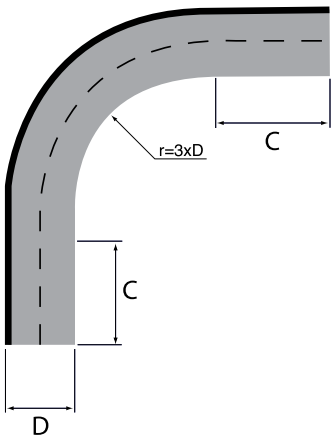
Trellex Bulk Bends for pneumatic applications have a, SBR wear tube of Trellex 60 rubber. The bend withstands operating temperatures of up to 70-80° C.

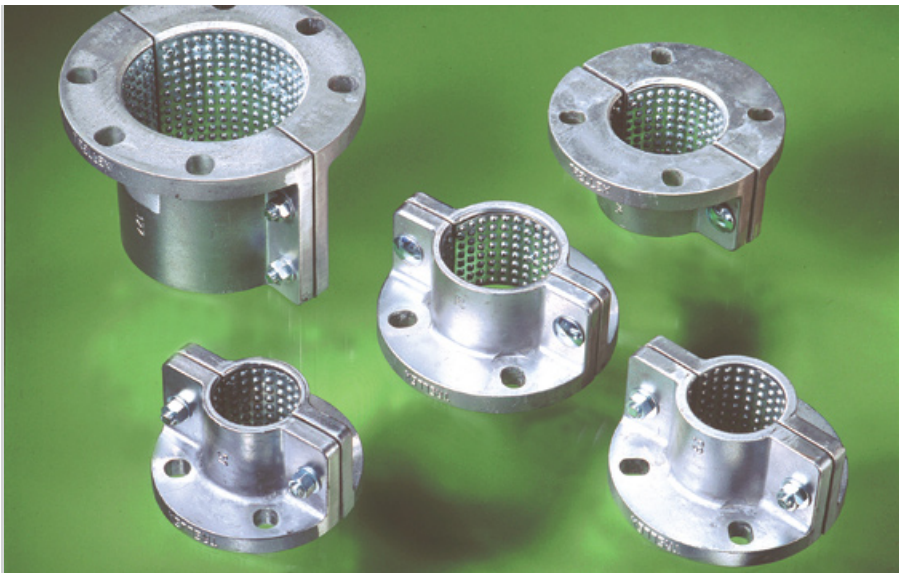
The Benefits

- Safety factor 3.2 times the working pressure.
- Smooth outer cover ensures good resistance to wear and weather.
- Thick, smooth-walled wear tubes providing low resistance to flow and long service life.
- Simple installation, No special tools needed.
- 30% thicker wear tube on the outer curve than the inner curve.
- Less vibrations.
- Lower noise levels.

Trellex 3D 90° type 29326, 45° type 29325

ID mm	OD mm	Wear tube		Operating pressure Mpa	A x B	C	r
		Inner radius mm	Outer radius mm				
51	72	5	7	1.0	260 x 260	105	155
63	82	5	7	1.0	285 x 285	105	180
76	99.5	6	8	1.0	335 x 335	105	230
102	125	6	8	1.0	455 x 455	150	305
116	141	6	8	1.0	510 x 510	160	350
127	154	6	8	1.0	570 x 570	190	380
152	178	6	8	1.0	670 x 670	215	455
204	238	7.5	10	1.0	890 x 890	275	615
254	291	7.5	10	0.5	980 x 980	215	765
305	341	7.5	10	0.5	1170 x 1170	255	915
355	403	12	16	0.5	1145 x 1145	295	850
405	456	12	16	0.5	1615 x 1615	400	1215





Trellex® Coupling

The Trellex Split-Flange Coupling is designed for use with Trellex Hoses and Bends. The coupling does not come in contact with the material flowing through the hose, and is thus not exposed to wear. Its manufactured from high-strength aluminium alloy.

The Trellex Coupling consists of two or four identical segments, which are fitted mechanically on the smooth hose. If a segment is lost or damaged, it can be replaced by any other segment of the same size. If a hose has to be re-placed, the old coupling is fitted to the new hose.

The coupling does not have to fit any specific pattern on the hose cover. It is simply rotated around the hose until it is aligned with the connecting flange. There is no need to rotate the hose itself. The coupling is designed for fast, simple fitting.

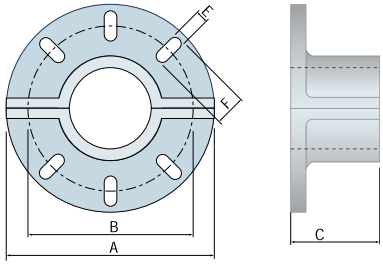
Neither special tools or skilled personnel are needed. Each coupling is delivered with bolts for the side flanges, square-headed to prevent them from turning. No other bolts are provided. The Trellex Split-Flange Coupling is compatible with all major flange drilling standards.

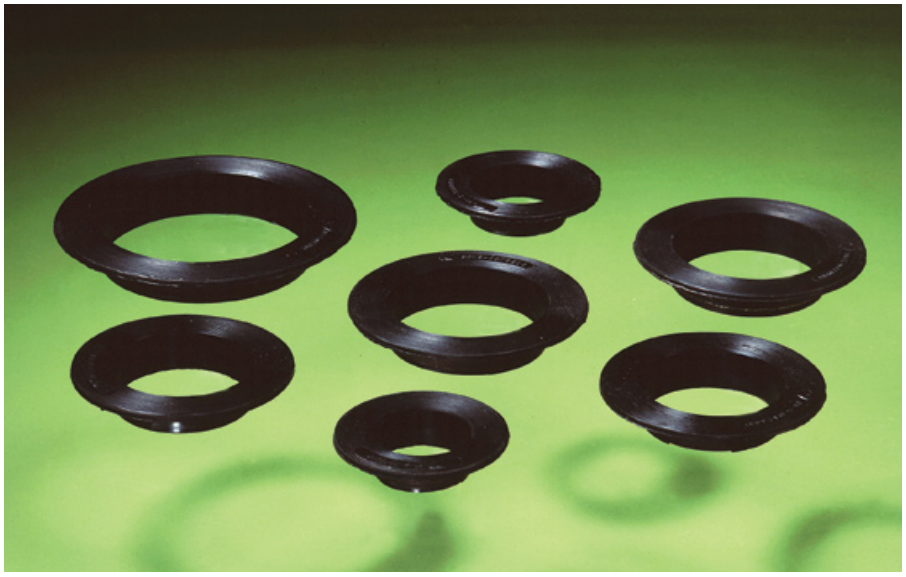
Coupling size	Dimension A mm	Dimension B mm	Dimension C mm	ExF mm	Holes per joint	Sections per segment	Weight kg	Matches flange DIN 2632 PN 10	Matches flange ANSI B16.5 Class 150	Operating pressure Mpa
44	165	124	71	18x20	2	2	1.6	50	2″	1.0
51	165	124	91	18x20	2	2	1.8	50	2″	1.0
63	185	146	91	18x24	2	2	2.2	65	2.5″, 3″	1.0
76	200	158	91	18x24	2	2	2.4	80	3″	1.0
80	200	158	91	18x24	2	2	2.5	80	3″	1.0
90	220	184	113	18x24	3	2	3.0	100	3.5″, 4″	1.0
102	220	184	133	18x24	3	2	3.5	100	4″	1.0
116	250	213	143	23x26	3	2	4.5	125	5″	1.0
127	250	213	165	23x26	3	2	4.8	125	5″	1.0
140	285	238	175	23x27	3	2	5.9	150	6″	1.0
152	285	238	197	23x27	3	2	6.2	150	6″	1.0
180	308	260	217	23x26	3	2	7.5	-	-	1.0
190	343	295	237	23x26	3	2	10.2	200	8″	1.0
204	340	295	257	23x26	3	2	10.6	200	8″	1.0
240	406	355	197	25x31	5	2	11.0	250	10″	0.5
254	405	353	197	25x33	5	2	11.1	250	10″	0.5
305	476	401	237	25x30	5	2	18.4	300	-	0.5
1305*	495	424	237	25x40	5	2	21.4	-	12″	0.5
355	530	455	277	27x40	3	4	25.6	350	-	0.5
1355*	530	466	277	28x41	2	4	27.0	-	14″	0.5
405	600	521	400	27x51	3	4	45.4	400	16″	0.5
457	634	556	450	27x36	4	4	49.9	450	-	0.5
1457*	634	569	450	27x36	3	4	51.3	-	18″	0.5
508	698	621	500	27x44	4	4	61.7	500	20″	0.5
610	820	731	600	30x52	4	4	79.5	600	24″	0.5

*) ANSI norm only

The Benefits

- Lower cost, thanks to modular design and reusable coupling.
- Not exposed to wear, since the coupling doesn't come in contact with the transported material.
- Manufactured from high-strength aluminium alloy, gives you low weight.
- Simple installation, No special tools needed.
- Compatible with all major flange drilling standards.





Trellex® Gasket

The tapered Trellex Gasket is designed for use with Trellex Hoses and Bends. Together with the Trellex Coupling, this gasket will give leak-proof, full bore joints.

The Trellex tapered gasket is reinforced with a steel insert, which makes it stiff and allows it to be pushed inside the hose, guided by the same inside bore that you want to match.

To complete one full joint between two hoses, two couplings and two gaskets are required.

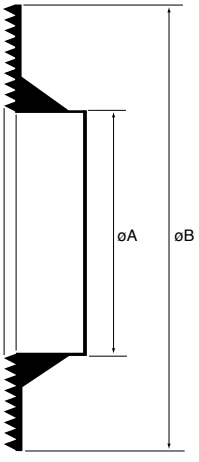
When tightened against the connecting flange, the inside tube of the hose will be pressed up against the outside slope of the gasket. The slurry itself will quickly wear the inside of the gasket flush with the hose, leaving a full-bore transition, free of turbulence. It is the inner diameter of the hose that will correctly position the gasket in the centre of the bore.

The taper of the gasket will further compensate for the une-venness in the end of a hose when it is cut to exact length onsite. The ends of the hose do not have to be ground flat as when working with ordinary, flat rubber gaskets.

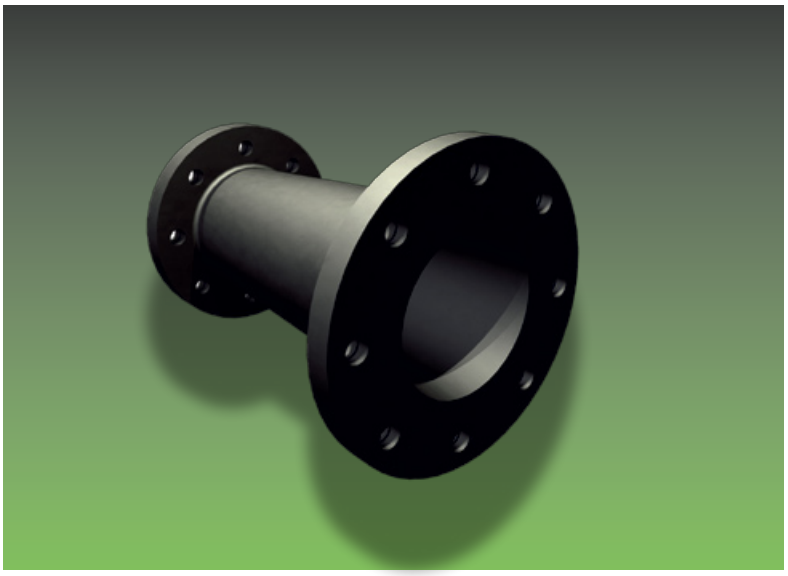
The fluting of the front of the gasket will eliminate any leakage.

The Benefits

- Steel reinforced, to be able to receive the same inside bore as the hose when pushed in to the hose.
- Full-bore transition, free of turbulence.
- Thick, smooth-walled wear tubes providing low resistance to flow and long service life.
- The taper compensates for any unevenness at the hose ends.
- Fluting pattern at the front eliminates leakage.



For internal hose diameter mm	A mm	B mm
44	42	82
51	49	89
63	58	99
76	74	118
80	78	122
90	88	132
102	98	144
116	113	160
127	123	175
140	137	188
152	148	202
180	177	232
190	187	244
204	198	258
240	238	302
254	248	314
305	298	365
355	350	415
405	400	466
457	452	520
508	503	578
610	605	684



ID/id mm	Wear Tube mm	Working Pressuure Mpa	Length mm L
63/51	6	1.0	380
102/51	6	1.0	380
102/63	6	1.0	380
102/76	6	1.0	380
102/82	6	1.0	380
127/82	6	1.0	380
127/102	6	1.0	380
152/102	6	1.0	380
152/127	6	1.0	380
178/152	6	1.0	380
204/127	6	1.0	380
204/152	6	1.0	380
204/178	6	1.0	380
254/204	7.5	0.5	380
305/204	7.5	0.5	380
305/254	7.5	0.5	380
355/204	7.5	0.5	380
355/254	7.5	0.5	380
355/305	7.5	0.5	380

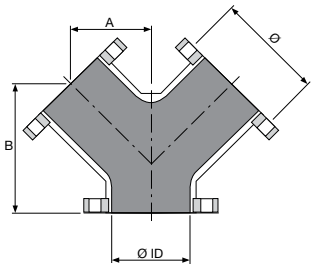
Trellex® Reducer

A reducer provides a transition between pipes or hoses with different diameters to compensate for change in flow rate. Taper of less than 2 x 8° ensures smooth flow with no tur-bulence. Short, standard length. Fully flanged for fast, easy replacement. Flanges are steel-reinforced and drilled to all major standards. The thick, smooth-walled wear tube is made from Trellex 40 low durometer natural rubber for extremely long life. The rubber cover has a fabric texture and pro-vides good resistance to wear and weather.

The Benefits

- All rubber construction, dampens the vibrations from the pump.
- Taper of less than 2 x 8° ensures smooth flow with no turbulence.
- Fully flanged for fast and easy replacement.
- Drilled to all major flange standards.

ID mm	A mm	B mm	Ø Hole division. DIN mm	Ø Hole division. ANSI inch
102	107	184	180	7.00
127	125	216	210	8.25
152	140	241	240	9.25
204	187	323	295	11.50
254	226	390	350	14.00
305	268	463	400	16.00
355	320	550	460	18.50



Trellex® Branch Pipes

The Trellex Branch pipe is fabricated from rolled and welded steel sheets, lined with 10mm thick hot- vulcanized Trellex 40 rubber. The lining is drawn over the flange faces. The cover surface is corrosion-painted. Flanges to all major standards.

The Benefits

- Long service life ensured by thick, smooth-walled lining of Trellex 40.
- Fully flanged.
- Drilled to all major flange standards.
- Corrosion painted outer surface.

- Metso Minerals (Wear Protection) AB Pump Solutions
  P.O. Box 74 SE-231 21 Trelleborg, Sweden, Phone: +46 410 525 00, Fax: +46 410 526 02
- Metso Minerals Industries Inc.
  P.O. Box 96, Birmingham, AL 35201, USA, Phone: +1 205 599 6600, Fax: +1 205 599 6623
- Metso Minerals (Sala) 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 (Johannesburg)
  Private Bag X2006, Isando, Johannesburg,1600, South Africa, Phone: +27 11 397 5090, Fax: +27 11 397 5826
- Metso Minerals (Asia-Pacific)
  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 Brasil Indústria e Comércio Ltda.
  Av. Indenpendéncia, 2.500 Éden, 18087-050 Sorocaba, Brazil, Phone: +55 15 2102 1310
- Metso Minerals (Perú) S.A.
  Calle 5 Nro. 144, Urb. Industrial Vulcano, Ate, Lima 03, Peru, Phone: +51 1 348 0474, 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

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

Metso Corporation, Fabianinkatu 9 A, P.O. Box 1220, FI-00101 Helsinki, Finland, tel. +358 20 484 100, fax +358 20 484 101, www.metso.com

Brochure No.2382-05-10-MBL/Trelleborg-English

Printed in Sweden