

Thickeners & Clarifiers



Standard product range

The standard product range is as follows:

Drive Mechanisms

- Type BL or BN for installation on Bridge type structures
- Minimum - Size 10 Mechanism with 32,000 Nm cut-off torque
- Maximum - Size 40 Mechanism with 1,100,000 Nm cut-off torque
- Type CL or CN for installation on Pier type structures
- Minimum CN Type - Size 20 with 190,000 Nm cut-off torque
- Minimum CL Type - Size 24 with 310,000 Nm cut-off torque
- Maximum - Size 40 Mechanism with 1,100,000 Nm cut-off torque

Superstructures

- Full diameter bridge type up to 40 metres diameter
- All Bridges to be truss type design
- Centre Pier type with half diameter access superstructure for all tanks larger than 40m diameter
- Up to 12m superstructure to be beam type
- from 12m to 25m superstructure to be castellated beam type
- over 25m superstructure will be truss type

Rakes

- up to 15m tank diameter, Rakes to be beam type with tie-rods
- over 15m tank diameter, Rakes to be truss type

Options

The complete range of Metso driveheads are available as both lift and non-lift designs. Rake height indication and remote indication of rake height and rake torque are available.

Drive mechanism and controls

The new drive mechanism range has been developed to improve torque capacity, reduce costs and rationalize component parts.

The main advantages of this range of drive heads can be summarized as follows.

Proven design extended to all drive head sizes

- Substantial slewing ring main bearing used for all sizes of drive heads. This bearing accommodates all tipping moments from rake system without affecting wormwheel alignment, thus further extending worm and wormwheel life.
- Designs available for both bridge and centre pier mounting.

Increased torque capacity.

Main wormwheel machined from centrifugally cast phosphor bronze for maximum wear life and torque capacity.

Reliable and adjustable torque sensing

Torque sensing by electronic main drive slip sensor with fixed high torque alarm and motor cut off values but with adjustable rake raise torque value. This gives great control over the thickener or clarifier operation.

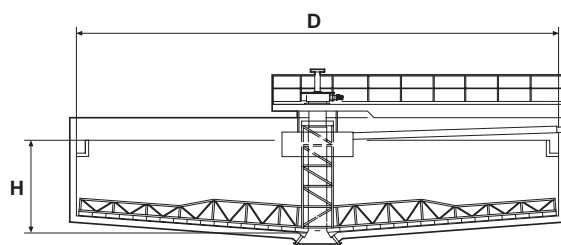
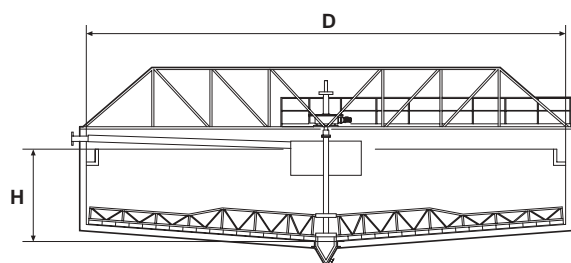
Improved design for easier maintenance

In-drive system consists of in-line, high efficiency epicyclic gearbox and main motor. Torque tower and telescopic pier redesigned, giving easier inspection of torque keys.

Standard mechanism range

The standard range of sizes and designs for the Metso Drive mechanism is shown in the table below. The CL and CN range do not exist below the Size 20 mechanism as it is not envisaged that the centre pier design will be used with these smaller drive mechanisms.

DRIVE HEAD	DESIGN OPTIONS	10 YEAR LIFE TORQUE, Nm	CUT-OUT TORQUE, Nm	PEAK TORQUE Nm
10	BL, BN Only	10,000	32,000	75,000
12	BL, BN Only	17,000	45,000	116,000
14	BL, BN Only	26,000	72,000	175,000
17	BL, BN Only	45,000	120,000	270,000
20	BL, BN, CN Only	65,000	190,000	400,000
24	BL, BN, CL, CN	112,000	310,000	650,000
28	BL, BN, CL, CN	164,000	450,000	920,000
32	BL, BN, CL, CN	225,000	610,000	1,170,000
36	BL, BN, CL, CN	301,000	800,000	1,530,000
40	BL, BN, CL, CN	397,000	1,100,000	2,000,000



Diameter		Area	
(m)	(ft)	(m ²)	(ft ²)
10	33	78	839
12	39	113	1 216
14	46	154	1 658
16	52	201	2 164
18	59	254	2 734
20	66	314	3 380
22	72	380	4 090
24	79	452	4 865
26	85	531	5 716
28	92	616	6 631
30	98	706	7 599
32	105	804	8 654
34	111	908	9 773
36	118	1 018	10 958
38	125	1 134	12 206
40	131	1 257	13 530
42	138	1 385	14 913
44	144	1 521	16 367

Diameter		Area	
(m)	(ft)	(m ²)	(ft ²)
40	131	1 257	13 530
42	138	1 385	14 913
44	144	1 521	16 367
46	151	1 662	17 889
48	157	1 810	19 479
50	164	1 963	21 130
52	170	2 124	22 860
54	177	2 290	24 653
56	184	2 463	26 512
58	190	2 642	28 440
60	197	2 827	30 430