

TUBULAR SCREW CONVEYOR

FOR HORIZONTAL AND RISING CONVEYING OF DRY BULK MATERIALS



Screw conveyors for horizontal and rising conveying (up to 45°) of dry, powdery to granular bulk materials. Standard tube diameter and a modular system for screw assembly guarantee quality and an optimal price-performance ratio

Areas of Application

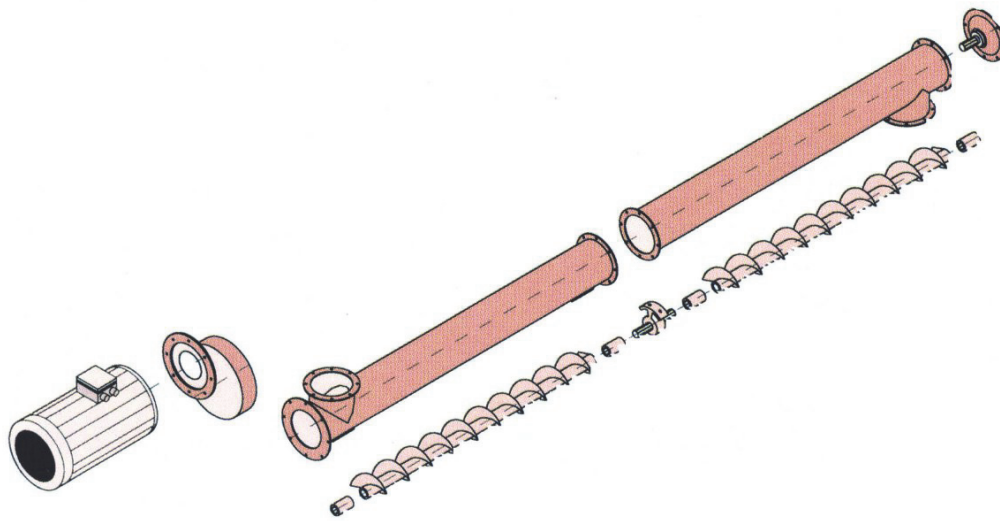
- The basic gear motors are designed for the building industry. Two types of motors with three transmission ratios are available.
- 4-pole IEC standard motors from 2.2 to 22 kW provide a wide range of conveying capacities.
- The compact design, progressive helix pitch and especially the spring-loaded stuffing box seal are essential advantages for trouble-free operation.
- The standard gear unit is connected to the screw helix and the bearing units by a maintenance-friendly splined shaft connection and enables maximum flexibility in the planning, production, placement and assembly of the screw conveyors.
- Individual screw inlet and outlet designs using flanges, pipe beads or universal inlets for adjusting inclination and displacement angles complete the modular system and simplify installation.
- Optional Hardox spiral or, depending on the medium to be pumped, specially treated screw helix, enable optimum service life, even under extreme operating conditions.

Details / Explanation

- Rust removal: SA 2,5
- Primer: 2K; 40µm
- Top coat: 2K; 40µm; screw RAL 9006
- Drive and end bearing units RAL 5010
- other RAL colours on request

Finish

System configuration:



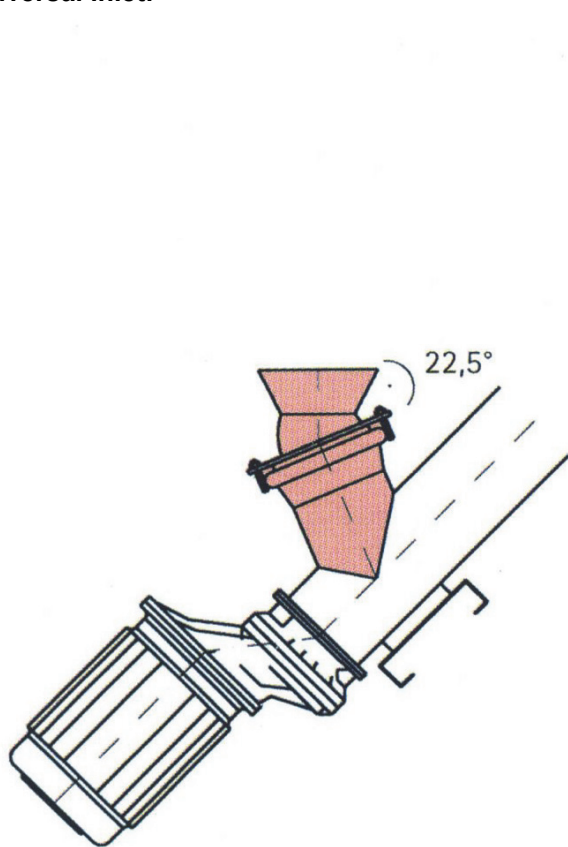
In the case of abrasive media, Hardox coils or coils armoured by hardfacing can be used.

Construction of the tubular screw conveyor

Notice



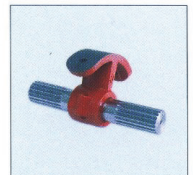
Universal inlet:



The universal inlet for inclination and dislocation adjustment simplifies installation and compensates for inaccuracies.



Bearing plate



Middle bearing



Geared motor

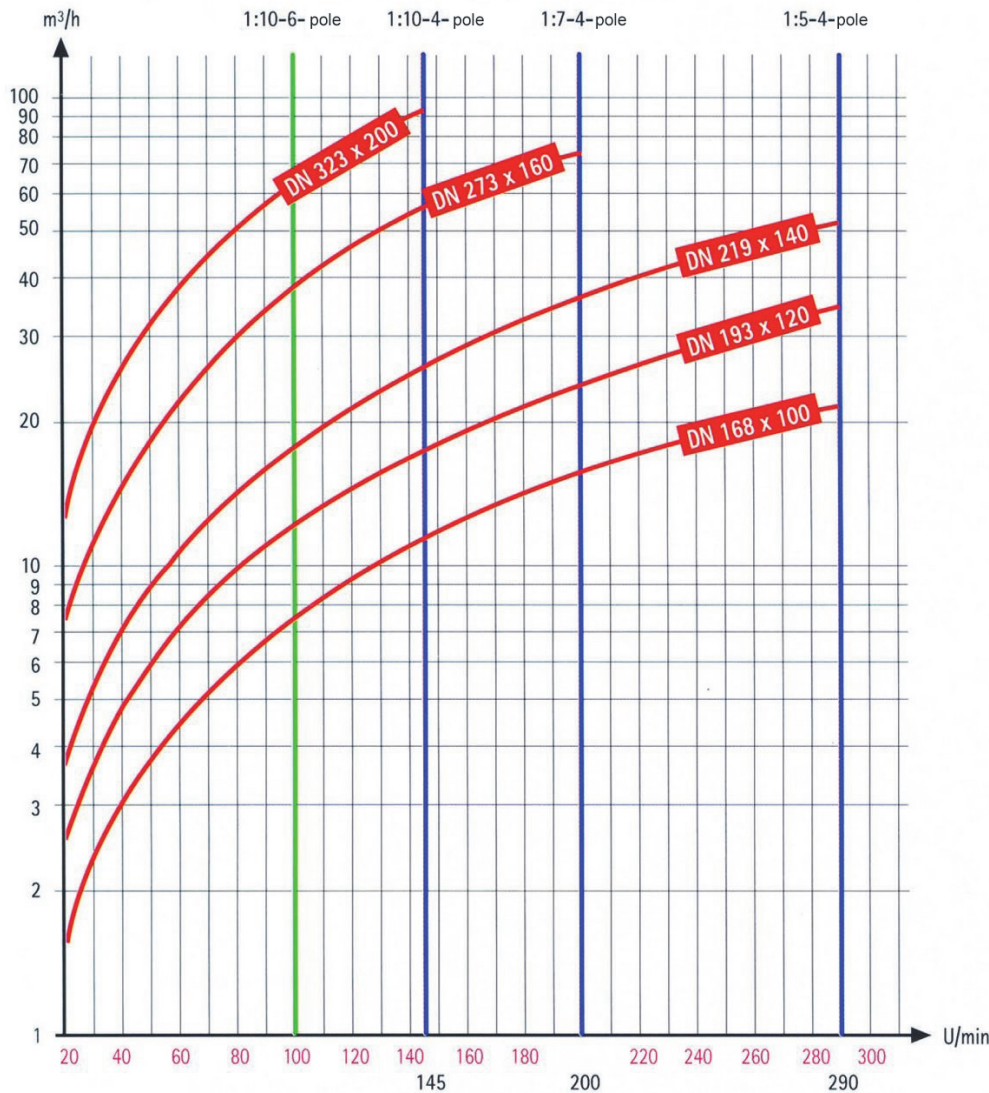


Automatic lubricator



Universal inlet

Standard translations



Conveying capacity as a function of screw speed

Two gear unit types and 4-pole motors are available for optimum design from 2.2 - 22 kW to choose from. At reduced speed and power throughput, weaker motors, as shown in the table, are used. Optionally available for reduction of the speed 6-pole motors and special gears are available.

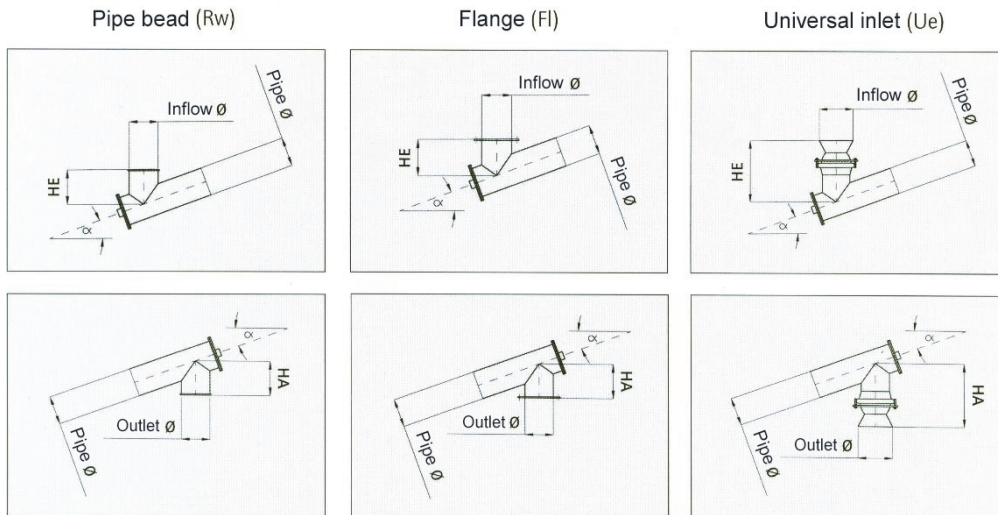
Conveyor screws with a standard helix pitch tend to shoot through, depending on the flow behaviour of the material and a pitch of less than 10°. It is also possible that the pumped medium may run after the screw has come to a standstill.

We recommend the installation of overtravel flaps at the screw outlet !

Standard helical pitch progressive

Diameters, \varnothing (mm)	168	193	219	273	323
Spiral pitch in the inlet area, (mm)	100	120	140	160	200
Continuing Progressive, (mm)	150	170	200	250	300

Standard Ein- und Ausläufe



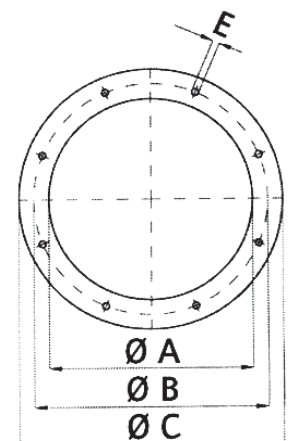
Outlets must not be smaller in diameter than the screw pipe diameter.

Tolerance ± 1 degree for installation angle.

Height data HE + HA $+10$
 -5 mm

Screw pipe diameter in mm	Inlet / Outlet diameter in mm	Height data HE/HA in mm													
		0° - 15°		16° - 25°		26° - 30°		31° - 35°		36° - 40°		41° - 45°		22,5°	Inlet/Outlet diameter
		Fl	Rw	Fl	Rw	Fl	Rw	Fl	Rw	Fl	Rw	Fl	Rw	Ue	
168	168	175	175	175	175	175	175	225	225	225	225	250	250	425	273
	193	175	175	195	195	195	195	245	245	245	245	245	245	-	-
	219	175	175	175	175	175	225	225	225	365	365	365	365	425	273
	273	325	375	325	375	325	375	325	375	325	375	325	375	500	323
	323	325	375	325	375	325	375	325	375	325	375	325	375	500	323
193	193	175	175	175	175	225	225	275	275	275	275	275	275	-	-
	219	175	175	175	175	225	225	365	365	365	365	365	365	425	273
	273	250	300	250	300	250	300	300	300	300	300	300	300	500	323
	323	290	340	290	340	290	340	290	340	340	340	340	340	500	323
219	219	205	205	255	255	255	255	395	395	395	395	395	395	425	273
	273	220	220	220	220	270	270	370	370	370	370	370	370	500	323
	323	320	370	320	370	320	370	320	370	370	370	370	370	500	323
273	273	250	250	250	250	300	300	400	400	400	400	400	400	500	323
	323	265	265	325	325	325	325	425	425	425	425	425	425	500	323
	356	300	300	300	300	300	300	300	300	300	300	300	300	-	-
323	323	300	300	300	300	360	360	360	360	460	460	460	460	500	323
	356	310	310	360	360	360	360	360	360	460	460	460	460	-	-

Standard connection flange



DN	150	175	200	250	300	350
A (mm)	170	195	221	275	325	358
B (mm)	200	250	250	300	350	400
C (mm)	228	278	278	328	378	440
E Ø (mm)	14	14	14	14	14	14
n°	4	4	4	8	8	8
S* (mm)	6	6	6	6	6	8

S* = Blade thickness, n° = Number of holes

Special connection pipe + flanges according to customer requirements

**Available
as an option**

- Pole-changing motors
- Frequency controlled motors
- Motors with PTC thermistor monitoring
- standstill monitors
- Motor make according to customer requirements
- Lateral geared motors with chain drive
- Bearing design for media temperatures above 80°C
- Automatic lubricator
- Inlet and outlet spigots with special flange or in rectangular design

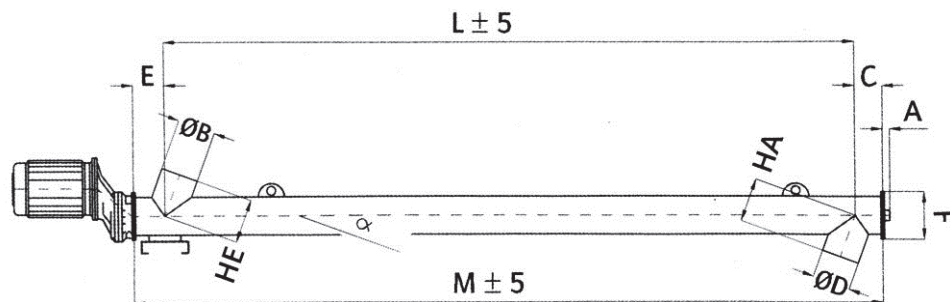
Diameters	Ø 168	Ø193	Ø 219	Ø 273	Ø 323
max. conveying capacity	22 m ³ /h	35 m ³ /h	52 m ³ /h	75 m ³ /h	92 m ³ /h
Motor drive power up to a screw pitch of max. 45°					
1	3kW	4kW	5,5kW	7,5kW	7,5kW
2					9,2kW
3	4kW	5,5kW	7,5kW	9,2kW	11kW
4					
5					
6	4kW	5,5kW	7,5kW	9,2kW	15kW
7					
8	5,5kW	7,5kW	9,2kW	11kW	18,5kW
9					
10					
11	7,5kW	9,2kW	11kW	18,5kW	22kW
12					

**Drive power of the
screw conveyors**

The table values refer to cement with a medium bulk density of 1.15 t/m³, with uniform material entry into the screw conveyor.
The drive ratings refer to 4-pole electric motors according to IEC standard (design B5).
The output can be reduced proportionally by up to 10% depending on the screw pitch and the pumped medium.
Table values without guarantee.

Masstabelle Förderschnecke

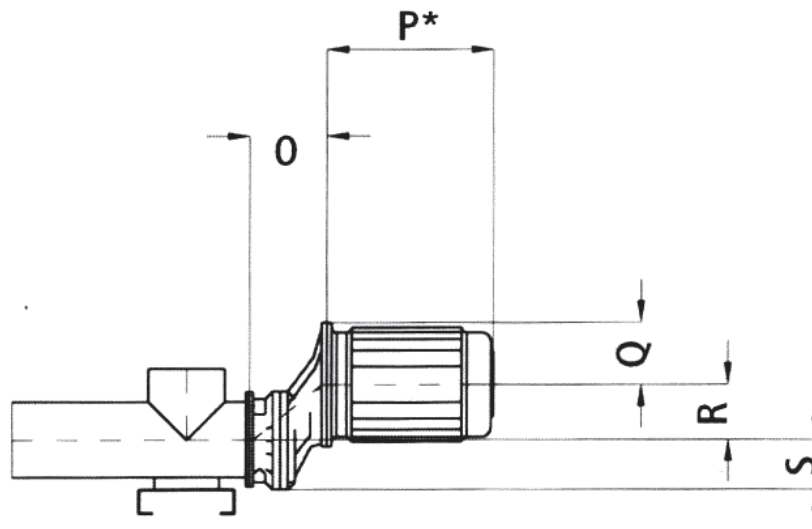
Screw diameter	168	193	219	273	323
A (mm)	40	40	40	40	40
∅ B (mm)	according to customer requirements see inlets and outlets				
C (mm)	140	150	160	180	220
∅ D (mm)	according to customer requirements see inlets and outlets				
E (mm)	140	150	160	180	220
L	according to customer requirements				
HE	according to customer requirements see inlets and outlets				
HA	according to customer requirements see inlets and outlets				
α	0 – 45° according to customer requirements				
M	L + C + E				



Installation dimensions geared motor U 2.1

Power in kW	2,2	3	4	5,5	7,5	9,2	11
O (mm)	222	222	222	222	222	222	222
P* (mm)	298	298	325	358	399	476	476
S (mm)	150	150	150	150	150	150	150
R (mm)	158	158	158	158	158	158	158
Q (mm)	125	125	125	150	150	175	175

Table values without guarantee
Subject to technical changes



* Different according to make

Installation dimensions geared motor U 3.1

Power in kW (mm)	4	5,5	7,5	9,2	11	15	18,5	22
O (mm)	268	268	268	268	268	268	268	268
P* (mm)	325	358	399	476	476	476	519	519
S (mm)	205	205	205	205	205	205	205	205
R (mm)	200	200	200	200	200	200	200	200
Q (mm)	125	150	150	175	175	175	175	175

Ground for 4-pole motors

