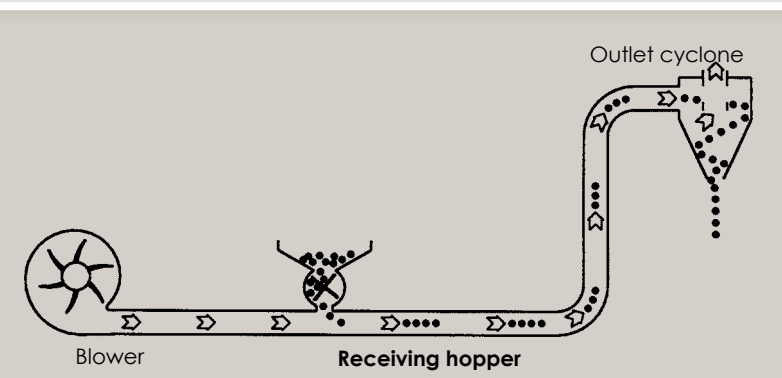


Pneumatic Grain Conveying



High Pressure Blowers

High Pressure Blowers



Pressure conveying systems are used to move grain from one place to another. Pressure conveying systems require grain to be fed directly into a hopper above the injector or rotary valve.

Benefits

- Minimal space for installation, the conveying pipes can reach anywhere.
- Low weight of the conveying pipe means only small loads on buildings.
- No heavy components to be installed in inaccessible places.
- Wide range of modular pipe components and junctions means flexible installation options.
- Only electrical installation to blower and rotary intake, which are centrally located.
- Easy capacity regulation with dampers on the inlet of the rotary intake unit
- Maximum capacity is achieved with pressure conveying.

How a blower system works

When the conveying pipe is connected to the blower's pressure side a powerful air flow is directed through the conveying pipe. An injector or receiving hopper leads the material to be conveyed into the piping system. Divertors are used to convey the grain easily to different delivery locations.

How a suction system works

The blower's intake side is used for suction conveying. The blower's intake is connected to the top of a suction cyclone. A receiving hopper is fitted to the cyclone's bottom outlet. The system is suitable for suction of grain from various locations through fixed or flexible pipelines, for example directly from the floor.

TRL High Pressure Blowers - Directly Driven



TRL 55 blower with TF 55 injector.



Directly driven rotor.



TRL 55 conveyor blower with damper for automatic adjustment of air flow.



TRL 75 blower for grain conveying and drying.

The blower creates an air flow in the pipes that conveys the grain. The amount of grain that can be blown through the pipes depends on the blower's power. Kongskilde provides blowers with different output to meet different needs.

The smaller blowers are directly driven, i.e. the blower's rotor is fitted directly to the motor shaft.

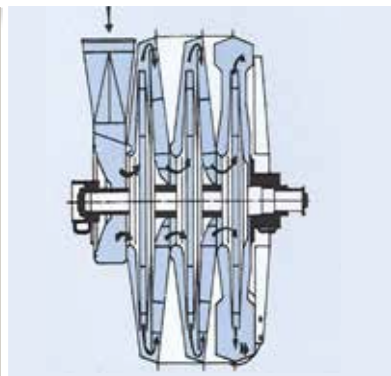
Benefits

- Moulded blower housings with soft corners provide low resistance to the air flow.
- Dynamically balanced rotors give smooth running.
- Control of the air provides efficient conveying and minimises pipe wear.
- Minimal maintenance

Technical specifications	Motor kW/hp	Power supply 50 Hz	Min. fusing recommended A	Power consumption A	Air volume max. m ³ /h	Air pressure Max mm VS/Pa	Weight kg	rpm
TRL 20	1.5/2	3 x 400V	10	3.1	1900*	250/2455	36	2850
TRL 40	3/4	3 x 400V	16	4.4	2600*	350/3440	68	2890
TRL 55	4/5.5	3 x 400V	16	7.5	1800	650/6380	77	2900
TRL 75	5.5/7.5	3 x 400V	20	10.5	3200	650/6380	92	2880

*) Injector required (Minimum back pressure from the injector necessary in order not to overload the motor.)

TRL High Pressure Blowers - Belt Driven



Control cabinet for TRL 150.

Automatic air control on TRL 500. Damper closes automatically during startup.

Construction of stepped high pressure blower.

V-belt drive for TRL 150.

Higher capacities require higher pressure output from the blower. The most effective way to achieve this is by increasing the rpm. For this reason, large blowers use a belt drive between the motor shaft and the blower shaft. In order to achieve sufficient pressure for larger capacities, the largest blowers have multiple rotors.

Benefits

- Effective modular system to build blowers with different outputs
- Proven design
- Air control ensures constant air flow for grain transport.
- Can be used for suction and blowing as required
- Pipe connections on both suction and pressure sides

Technical specifications	Motor kW/hp	Power supply 50 Hz	Min. fusing recommended A	Power consumption A	Air volume max. m ³ /h	Air pressure Max mm VS/Pa	Weight kg	Rev. blower /min	Rev. motor /min
TRL 100	7.5/10	3 x 400V	25	20	1800	950/9330	129	3650	2930
TRL 150	11/15	3 x 400V	35	27	1800	1300/12770	171	4200	2930
TRI 200	15/20	3 x 400V	35	33	1800	1700/17000	206	4700	2930
TRL 300	22/30	3 x 400V	63	39	1800	2300/22600	347	4100	2940
TRL 500	37/50	3 x 400V	100	65	1800	3500/34400	468	4300	2950
TRL 600	45/60	3 x 400V	-	78	1800	5200/51050	950	3905	2960
TRL 750	55/75	3 x 400V	-	96	1800	6400/92800	965	4310	2960
TRL 1000	75/100	3 x 400V	-	129	1800	7900/61700	1065	4780	2960

The above data refer to electrical connection 3x400V/50Hz. For other power supplies please contact Kongskilde.

Capacities for TRL High Pressure Blowers

Conveying capacity for purified and dried wheat (700 kg/m ³)(t/hour)	Transport Length (m)										
	10	20	30	40	50	60	80	100	120	150	200
TRL 20 + TF 20	2,3	1,9	1,6	1,3	1,1	0,9	0,7	0,5			
TRL 40 + TF 40	4,0	3,3	2,8	2,5	2,1	1,9	1,5	1,1			
TRL 55/75 + TF 55	4,3	3,7	3,1	2,7	2,4	2,1	1,6	1,3	1,1	0,8	
TRL 55/75 + CA 20	8,2	6,9	6,0	5,2	4,6	4,1	3,3	2,7	2,2	1,7	
TRL 100 + CA 20	15,3	12,9	11,1	9,7	8,5	7,5	6,0	4,9	4,0	3,0	1,9
TRL 150 + CA 20	18,5	17,9	16,2	14,1	12,3	10,9	8,7	7,1	5,8	4,3	2,7
TRL 150 + CA 30	22,3	18,8	16,2	14,1	12,3	10,9	8,7	7,1	5,8	4,3	2,7
TRL 200 + CA 20	17,5	17,4	17,3	17,3	16,3	14,6	11,8	9,8	7,8	6,4	4,3
TRL 200 + CA 30	27,9	23,8	20,6	18,1	16,0	14,3	11,7	9,7	7,8	6,3	4,3
TRL 300 + CA 30	29,7	28,7	27,0	23,8	21,2	19,0	15,7	13,2	11,2	9,0	6,5
TRL 300 + CA 40	36,1	31,0	27,0	23,8	21,2	19,0	15,7	13,2	11,2	9,0	6,5
TRL 500 + CA 40	49,5	44,0	39,5	35,8	32,6	30,0	25,6	22,3	19,6	16,5	12,7
TRL 600 + CAD 50	59,3	52,7	47,4	42,9	39,2	36,0	30,7	26,7	23,6	19,7	15,2
TRL 750 + CAD 50	74,0	65,8	59,2	53,6	48,9	44,9	38,3	33,3	29,4	24,6	19,0
TRL 1000 + CAD 50	91,6	81,4	73,2	66,3	60,5	55,5	47,3	41,2	36,4	30,4	23,5

The table is based on a 4 m vertical lift and two 90° bends in the pipeline. The rest of the pipe is horizontal.

Various factors affecting the conveying capacity:

- Crop water content, based on 15% for cereals.
- Extra lift height reduces capacity.
- Multiple bends reduces capacity.
- Air temperature and barometric pressure
- Purity of the grain



Blower graph

