



# PEMBRIL VARIABLE SPEED FLUID COUPLINGS

Type SCR 24X Sizes 18 to 52

The type SCR24X fluid couplings, when installed between a constant speed motor and driven machine, can be employed in a variety of ways depending upon the requirements of the particular application.

Scoop control fluid couplings will provide -

- Stepless variable output speed, using a fixed speed motor, over a range of 5:1 for centrifugal pumps and fans. On constant torque drives a 3:1 speed range may be achieved.
- Control of torque during acceleration of high inertia loads; a good example being the starting of belt conveyors.
- Engaging and disengaging of a drive with a continuously running motor. For example, descaling pumps in steel-works.

The units are readily adaptable for use with manual, remote or automatic control and can be supplied complete with most types of actuators pneumatic, hydraulic, or electric. In addition, special controls are available for certain applications, for example, belt conveyor drives.

## Operation

To vary the output speed of a fluid coupling it is necessary to vary the amount of fluid in the working circuit (i.e. between the runner and impeller). In operation, oil in the working circuit escapes centrifugally

through small leak-off nozzles into the drum of the inner casing assembly and forms a ring inside the rotating reservoir casing. The tip of the hollow scoop tube picks up oil from this rotating ring and returns it to the working circuit via an external cooler, if needed. The volume of oil retained in the working circuit depends on the radial position of the tip of the scoop tube. An external control lever on the scoop housing bracket enables the position of the scoop tube to be adjusted while the unit is running, thus varying the output speed or the torque transmitted.

## Construction

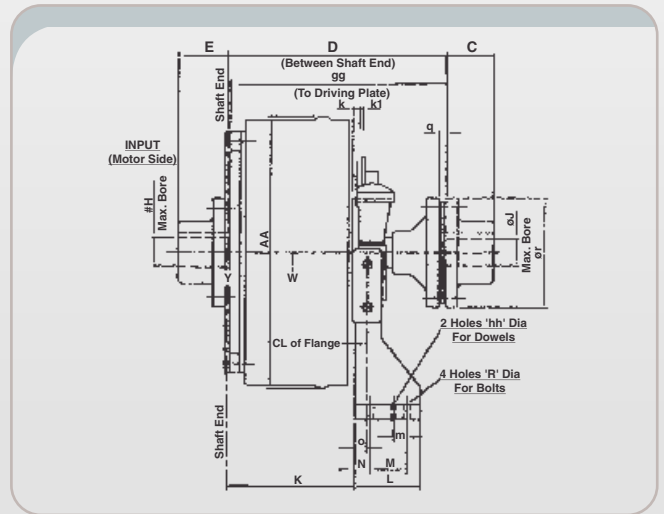
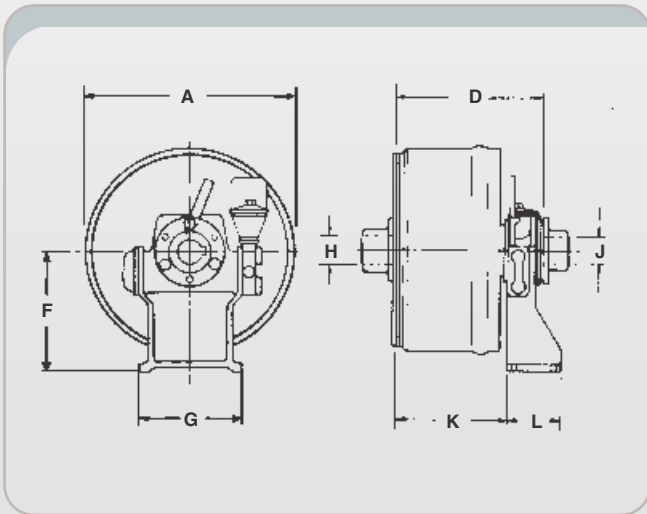
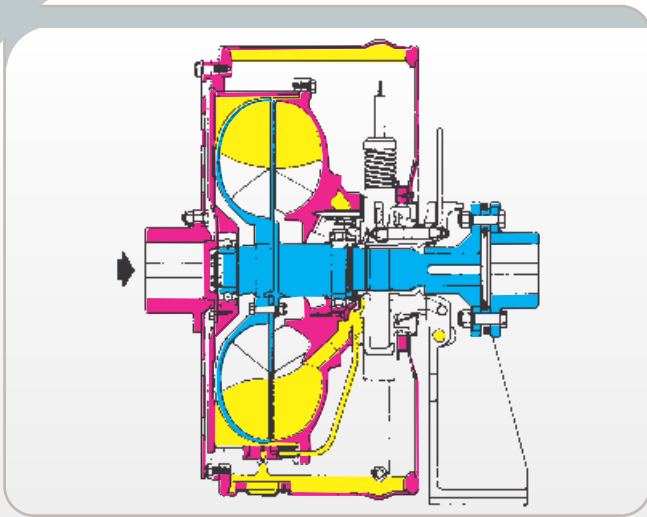
The main rotating casing of the fluid coupling is formed from two steel fabrications which are bolted together on the input end. The impeller and runner, between which oil circulates to transmit power, are aluminium alloy castings. The internal bearing arrangement ensures that no external hydraulic thrust can be created by the fluid coupling. The scoop tube is supported by a stationary cast iron bracket, normally mounted on the bed plate. This design of fluid coupling is provided with semi-flexible input and output mountings, and the weight of the rotating parts is supported by the shafts of the motor and driven machines. Bores and keyways of the input driving boss and output half coupling are finished to suit customers' requirements. Units are available in 10 sizes in ratings up to 2,780 kW.





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**Technical Data**

SIZE	Dimension in MM											Filled Weight (Kg)
	A	C	D	E	F	G	H	J	K	L	Q (Litres)	
18	629	95	492	89	355	324	85	100	321	152	16	215
20	692	95	508	89	355	324	85	100	337	152	21.6	258
23	789	114	616	114	457	387	110	125	406	190	31.8	412
26	891	114	854	114	457	387	110	125	445	190	47.5	479
29	1018	140	883	133	559	484	130	150	445	229	83.5	758
32	1108	140	781	133	559	484	130	150	543	229	86	911
36	1254	165	857	165	711	559	150	160	600	276	123	1356
41	1413	165	921	165	711	559	150	160	664	276	184	1666

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