



TowerClutch

TRANSFLUID
trasmissioni industriali



Transfluid

Founded in Milan Italy in 1957, Transfluid has always been a point of reference in the world of industrial transmission equipment and the standard that its competitors measure themselves.

Fluid couplings, variable speed drives, brakes, clutches, couplings and hydraulic transmissions constitute the core of the product line, while ultra-modern technology, careful selection of materials and meticulous assembly are the key ingredients in the recipe that has placed those products at the forefront of the market. Thousands of customers continue to choose Transfluid for the most diverse and demanding applications, knowing they can rely on Transfluid's technical department, where design, engineering and planning experts are always on hand to quickly resolve client's problems.

Italian dynamic innovation, coupled with ongoing staff development and more than fifty years of hard-earned expertise, are the foundation of the company's success.

Transfluid's unique approach has sparked small but important revolutions in the field of heavy-duty transmissions, for which recognition has come in the form of international awards.

Transfluid's catalogue boasts a wide range of products, and each unit produced is tested for safety, quality and durability. Being a world leader in the design and manufacture of fluid couplings, Transfluid has earned a reputation for diligent service, which assures the competence of the applications through careful quality control and on-site technical assistance. In addition to the Italian Headquarter, Transfluid's broad sales network consists of six branches located in Australia, China, France, Germany, Russia and United States, one representative office in Brazil and 32 distributors located throughout the world.

Introduction

As natural development to Transfluid's power transmission product range, the TowerClutch fulfills a growing market demand for a disconnectable, compact dry clutch with high capacity hydraulic pump pads. With the ability to easily drive multiple implements, leading manufacturers of mobile machinery have been finding applications for its use in rock crushers, wood chippers, drill rigs, waste grinders, road mills and reclaimers.

Additionally, reliability and the flexible modular design of the TowerClutch make it useful in marine applications such as work boats, tugs and dredges.

Main features

Assembled with time tested and proven heavy-duty production products and components the TowerClutch provides unsurpassed performances and reliability. The oil/air actuated dry clutch (HF series) is flanged to the engine through an innovative splitter box (Stelladrive series) which mounts to standard SAE engine flywheel and housing connections.

The splitter box pump pads accommodate SAE B, C, D, or E hydraulic pumps with the possibility to disconnect each of them by installing the CC650 pump clutch (see Stelladrive catalogue).

Torsional vibrations dampening and compensation of radial and angular misalignment is assured by a flexible coupling mounted on TowerClutch's input.

The TowerClutch is a self-standing transmission. The hydraulic block, feed pump, filter and the MPCB-R5 electronic controller with wire harnesses are completely preassembled in a compact user-friendly design that eliminates additional plumbing and wiring associated with similar products.

The MPCB-R5 controller can be wired for single system control or interfaced with the machines main control system in order to integrate remote e-stop buttons and other features.



Advantages

The self-adjusting integrated HF clutch drastically reduces downtime and maintenance costs.

It contains a multi disc dry clutch that is rigidly connected to the splitter box and has an output shaft capable of transmitting torque either radially by a pulley or in line with a cardan shaft or flexible coupling.

The TowerClutch is remotely operated and uses oil or air pressure for engagement.

The robust splitter box eliminates flywheel side loads and torsional vibrations associated with modern high torque industrial engines.

In extremely heavy-duty applications, the optional Kevlar friction disc assures machine uptime and extended operating life.

In addition to hydraulic pumps, the TowerClutch heads accept a variety of unique accessories such as pulleys, stub shaft PTOs, cardan shafts, pump clutches and electric motor/generators.

Electronic control, relevant benefits

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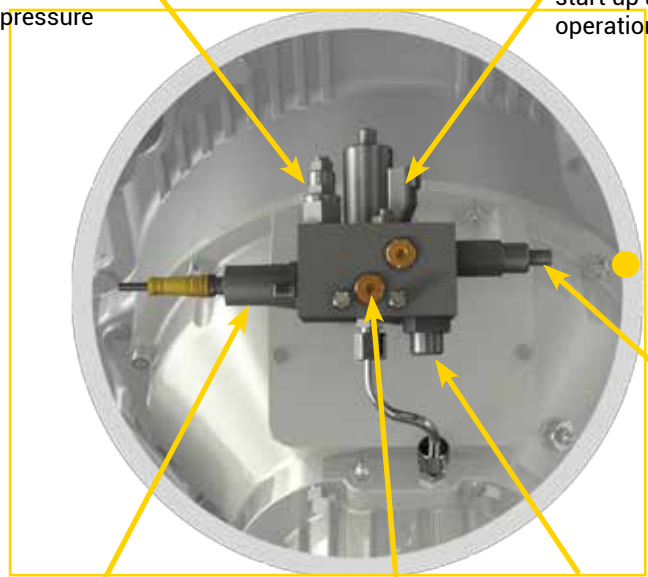


Hydraulics & Electronics



Oil flow control valve to tune the most appropriate clutch engagement process and to limit undesired clutch counter pressure

Proportional solenoid valve to modulate pressure during start up and normal operation



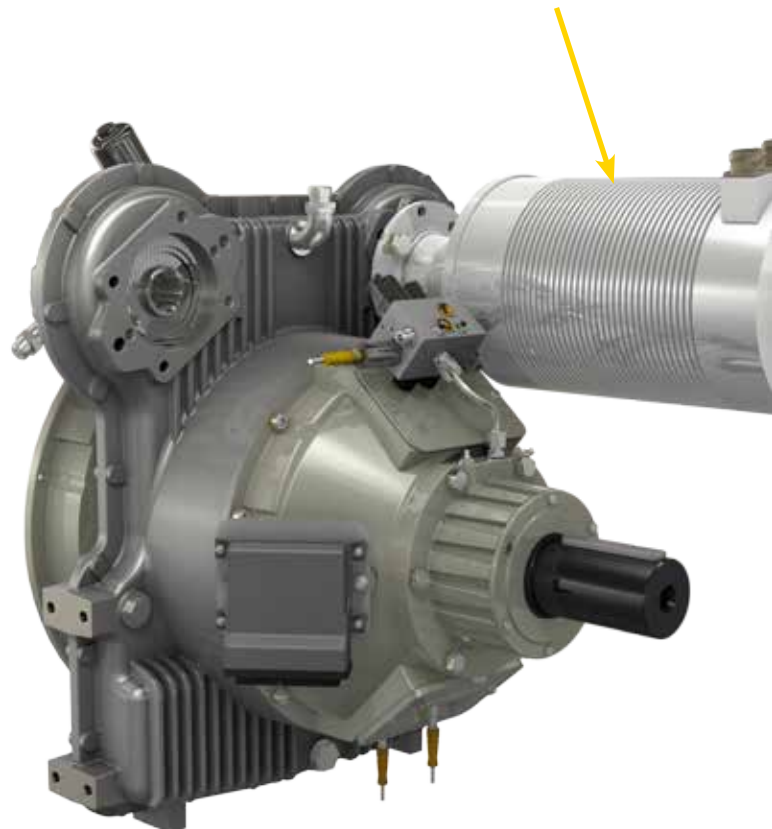
Pressure relief valve set at 12 or 25 bar depending on clutch model

Pressure transducer to continuously control clutch operating pressure

1/4 BSP clutch pressure gauge

1/2 BSP tank/drain port

(Optional)
Permanent magnets
Variable speed
E. Generator



Oil pump to supply main clutch and CC650 pressure

16 micron mesh filter with integrated by-pass

(Optional) Face to face CC650 clutch (for details see catalogue #645)

(Optional) Stub shaft PTO (for details see catalogue #645) for in-line and pulley

Hydraulic block to operate main clutch. No oil lubrication or cooling circuit required

CAN BUS
SAE J1939
or Open

MPCB-R5 Electronic Controller to softly engage the main clutch, to enhance equipment efficiency and to avoid undesired down time

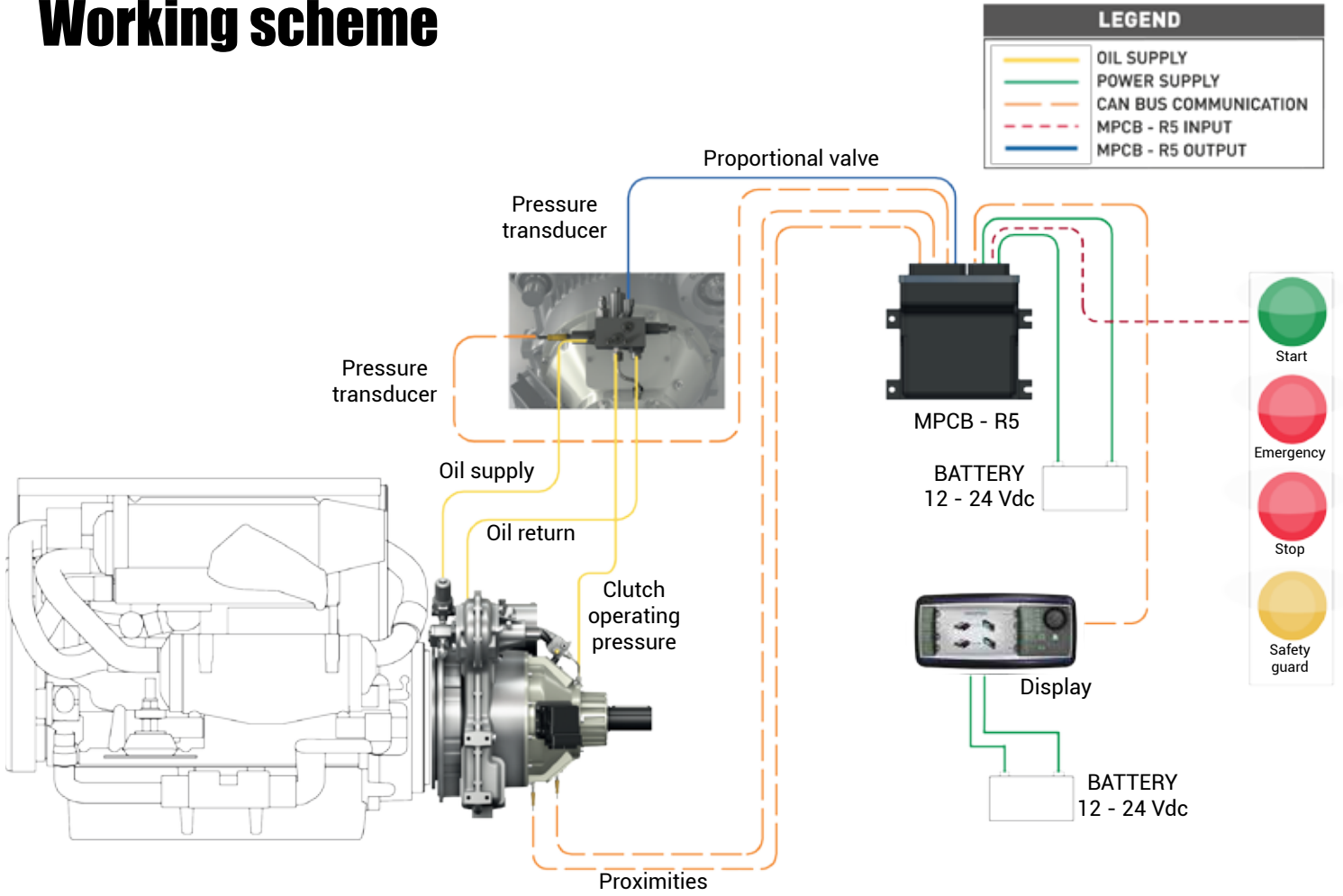


15 different status of clutch and equipment are displayed by LCD graphic interface (see manual #513)

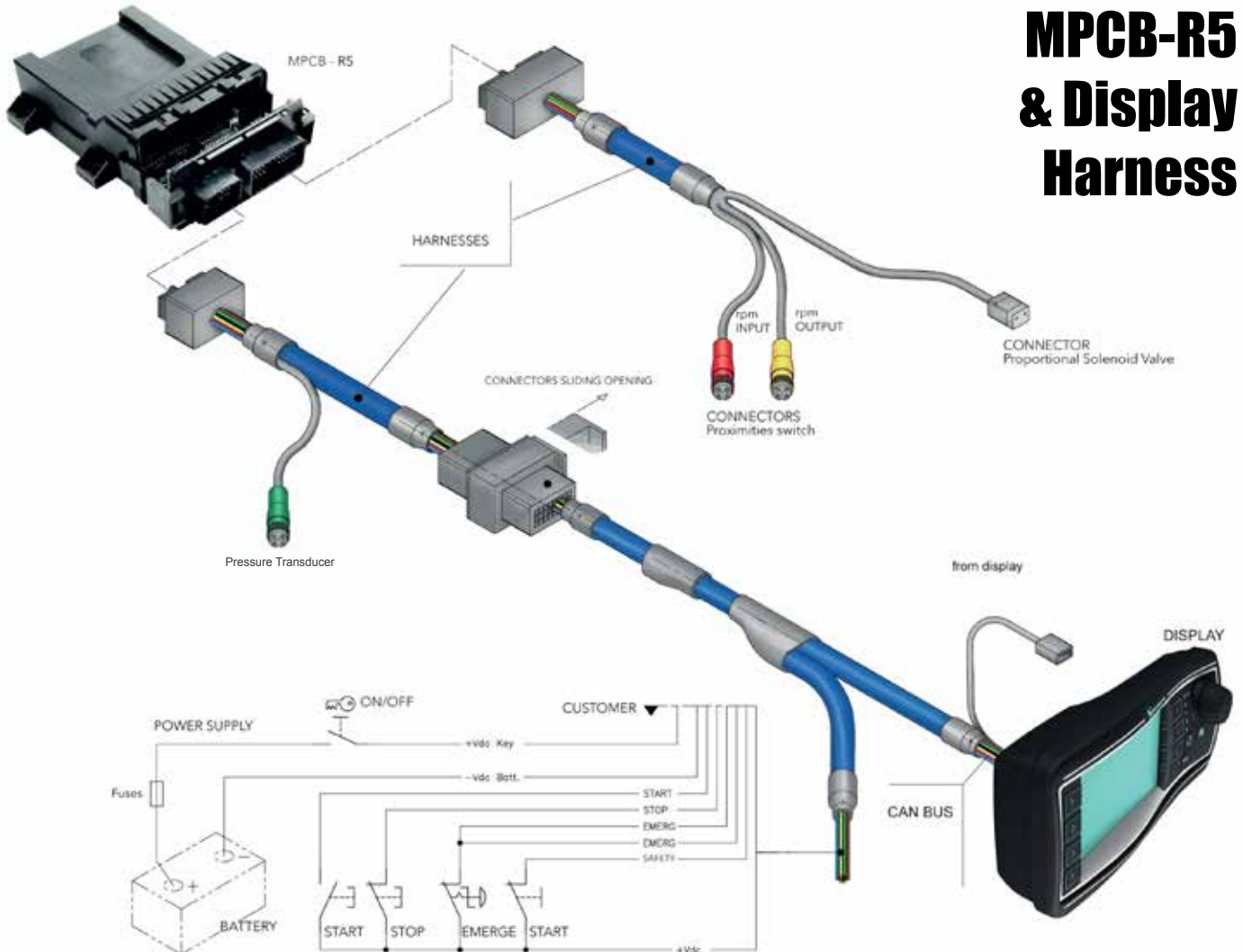


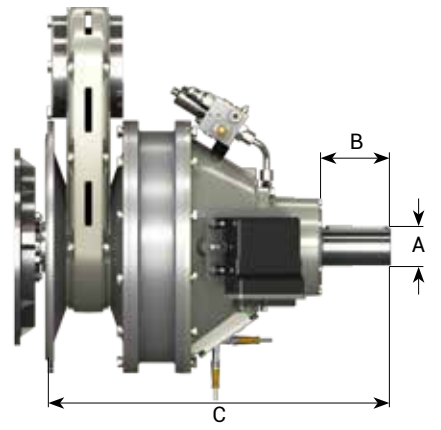
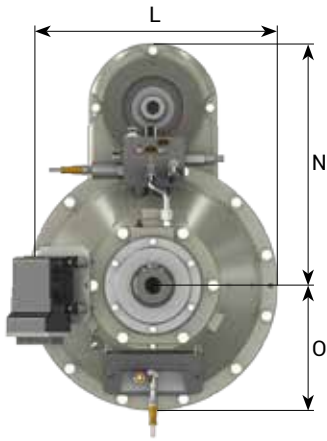
Warning and alarm messages are sent via CAN BUS to the operating machines PLC or Transfluid Display.
The operating machines system can apply any intervention necessary to prevent failures. It followed, warning messages can eliminate machine down time and improve productivity.
In the event that warning messages are ignored or not received by the machines operating system the MPCB-R5 automatically shuts down the TowerClutch by disengaging the main clutch preventing undesired and costly failures.

Working scheme

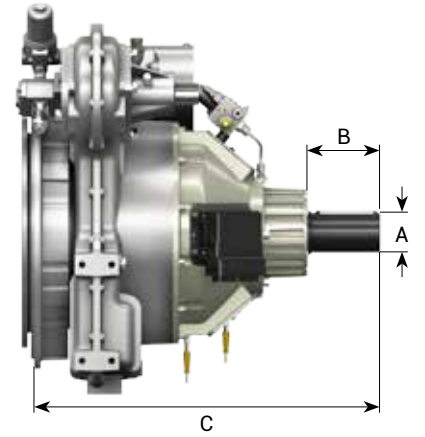
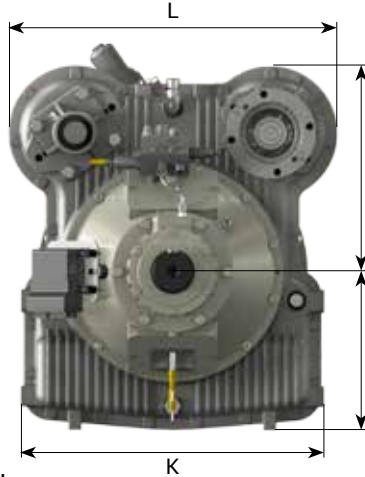


MPCB-R5 & Display Harness

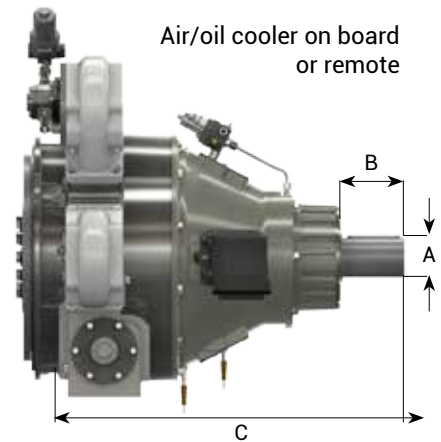
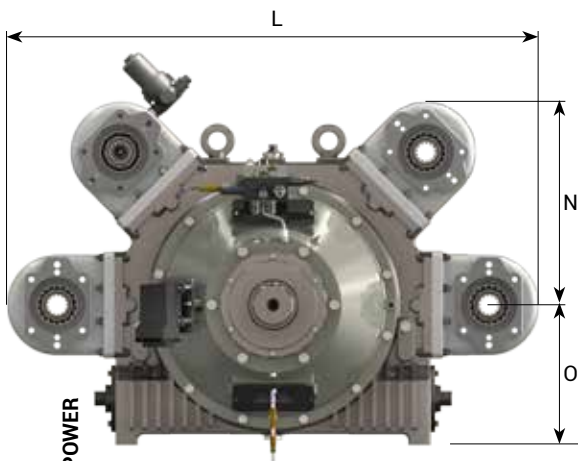




MODEL size	INPUT TORQUE Nm (lb-ft)	MAX SPEED rpm	PUMP PADS	PUMP POWER kW (hp)	SAE INPUT J617 - J620	Ak6 mm (in)	B mm (in)	C mm (in)	L mm (in)	N mm (in)	O mm (in)	WEIGHT kg (lb)
TC11-210	560 (413)	3000	2	53 (71)	4 - 10"	60 (2,36)	110 (4,33)	548,5 (21,59)	404 (15,47)	393 (15,47)	202 (7,95)	113 (249)



MODEL size	INPUT TORQUE Nm (lb-ft)	MAX SPEED rpm	PUMP PADS	TOTAL PUMP POWER kW (hp)	SINGLE PUMP POWER kW (hp)	SAE INPUT J617 - J620	Ak6 mm (in)	B mm (in)	C mm (in)	K mm (in)	L mm (in)	N mm (in)	O mm (in)	WEIGHT kg (lb)
TC14-311	2000 (1475)	2600	3	175 (235)	120 (161)	3-11,5"	80 (3,15)	140 (5,51)	677 (26,65)	620 (24,41)	673 (26,5)	422 (16,61)	325 (12,8)	322 (710)



MODEL size	INPUT TORQUE Nm (lb-ft)	MAX SPEED rpm	PUMP PADS	TOTAL PUMP POWER kW (hp)	SINGLE PUMP POWER kW (hp)	SAE INPUT J617 - J620	Ak6 mm (in)	B mm (in)	C mm (in)	L mm (in)	N mm (in)	O mm (in)	WEIGHT kg (lb)
TC18 - 314	3350 (2471)	2200	7	300 (402)	120 (161)	1 - 14"	90 (3,54)	140 (5,51)	835 (32,87)	1197(47,13)	457 (17,99)	315 (12,4)	556 (1226)
TC22 - 318	6300 (4647)	2100	7	400 (536)	175 (235)	0 - 18"	110(4,33)	180 (7,09)	1058 (41,65)	1326 (52,2)	502 (19,76)	415 (16,34)	898 (1980)

Support plate required for TC18-314 and TC22-318 (see TF6229)

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