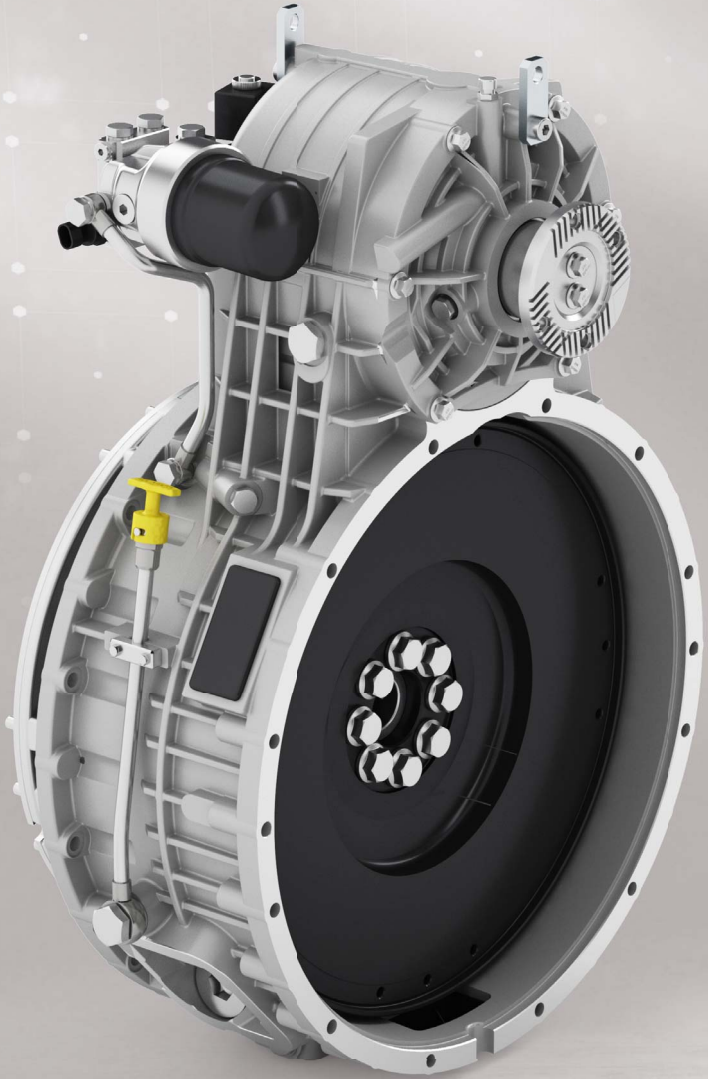


**NEW
DESIGN**

**100% OF ENGINE
AVAILABLE TORQUE**

**High Performance Flywheel PTOs
for Heavy Duty Applications**



EFP-1

ENG

**INTERPUMP
HYDRAULICS**

PRODUCT CONCEPT

With a combination of 4 ratios and 4 torques, the high-performance EFP-1 PTOs cover 100% of market requirements and expectations to fulfil the most common Heavy-Duty applications on mobile equipments.

The concept has as main focus the high versatility towards the installation on a huge variety of Industrial Vehicles configurations of Engines & Transmissions.

In addition, a wide range of output options make the EFP-1 PTO the best suitable product

among the currently available in the market.

The long-lasting cooperation of IPH with the Truck manufacturers (OEMs) has offered to our EFP-1 Series PTO the opportunity to combine the IPH experience on PTOs, with the necessary high-quality demand for a factory fitted product.



PRODUCT APPLICATIONS



The EFP-1 PTOs are perfectly suited for **heavy duty** and **continuous use applications**, such as **concrete mixers, concrete pumps, sewer cleaning and fire fighting vehicles**.

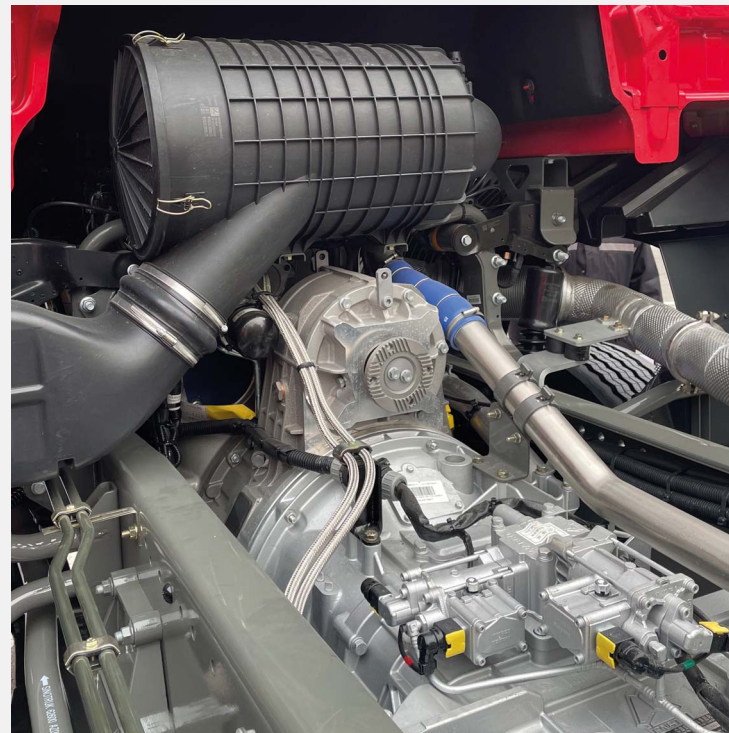


MOST COMPACT DESIGN BOTH IN WIDTH AND DEPTH

- Easy suitable to be installed onto the following transmission (manual, automated and fully automatic): **ZF, Allison, Eaton, Daimler, Isuzu, Hino, Nissan, etc., and various engine brands**
- Suitable for a **wide range of engine/gearbox combinations** up to a maximum power output of **410 kW for continuous use (max. PTO output torque 3000 Nm)**
- PTO usage both with **stationary vehicles** and in **mobile conditions** (up to 20 Km/h)
- PTO installation position **between engine and gearbox**
- Supplied with **heat exchanger**
- Available with **electronic control unit (CAN-bus)**
- Available, upon specific request, in **different mounting positions** (standard mounting position: h 11 - h 12 - h 1)

PRODUCT FEATURES

- PTO output Torque:**
3000 Nm / ratio 1:0.92
2500 Nm / ratio 1:1.02
2000 Nm / ratio 1:1.27
1600 Nm / ratio 1:1.56 (specific for firefighting)
- Unit through torque** (to rear axle): 4000 Nm (max)
- Max continuous power:** 410 kW
- Max engine speed** (in working condition): 2500 r.p.m.
- Intermittent clutch engagement power:** 280 kW
- No residual clutch drag** (active brake function)
- PTO output arrangement:**
pump SAE C 4 bolts (on demand)
flange 120 ISO 8667 (XS)
flange 150 ISO 8667 (XS)
flange DIN 150



PRODUCT OPTIONS

- PTO output engagement control:** **hot-shift** (clutch - standard) and **constant drive** (optional)
- Pre-arrangement for **external oil cooler**
- Temperature control** option
- Oil level** inspection
- PTO output **sensor speed**
- Auxiliary PTO window opening** located at 4 and 8 o'clock: 270 Nm - ratio 1:1.27
- COOLER LINE 7.24** Oil cooler (air/oil) 7kW - RECOMMENDED
- EFP-C Engine Flywheel PTO Controller:** control unit designed to help both the machine operator and the outfitter of the equipment

NEW

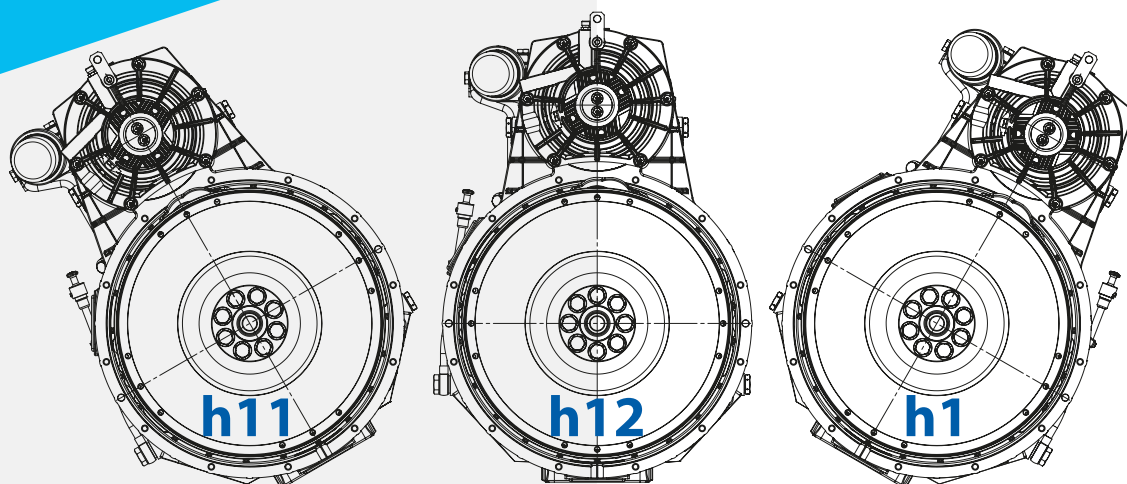
4TH AVAILABLE RATIO

4TH VERSION

AVAILABLE ON DEMAND

STD MOUNTING POSITIONS

VIEW FROM REAR (differential side)



OTHER MOUNTING POSITIONS AVAILABLE ON DEMAND

EFP-C ENGINE FLYWHEEL PTO CONTROLLER

The **EFP-C** is a control unit designed to help both the machine operator and the outfitter of the equipment, as it can monitor:

- oil temperature
- oil pressure (lubrication, engagement)
- r.p.m. output shaft when pto engaged
- active brake function control
- clutch status by monitoring inlet/outlet pto r.p.m.
- engine r.p.m.
- absorbed power.

It can also provide the following features:

- dialogue with truck Can-bus network to send the data listed above and make them available for PLC or monitors eventually already installed on the vehicle
- engine r.p.m. control
- anti-stall engine protection
- remote start and stop procedure.



EFP-C

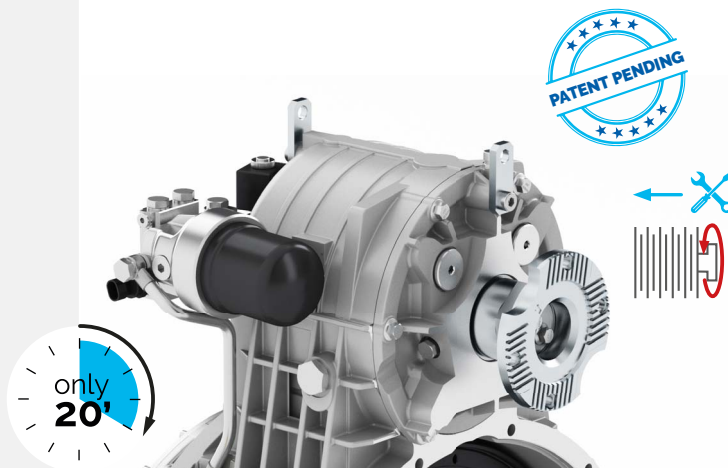
EMI-Clutch EMERGENCY MANUAL INTERLOCK

EMI-Clutch is an advanced mechanism to restore PTO drive status in case of clutch damage.

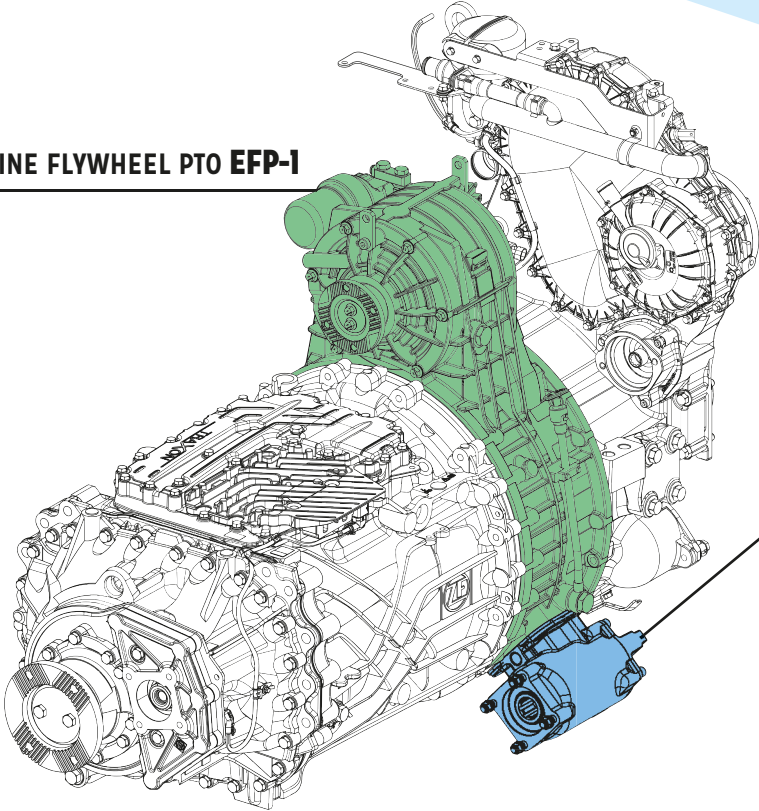
Thanks to **EMI-Clutch**, you can easily overcome any malfunctions in PTO engagement, keeping the PTO working for the time needed to complete the operation in progress.

Once the emergency operation is over, you can disconnect the mechanism and travel with the PTO off.

Best for Concrete Pumps application in case of PTO clutch malfunctions.




ENGINE FLYWHEEL PTO EFP-1



for **MANUAL & AMT TRANSMISSIONS**

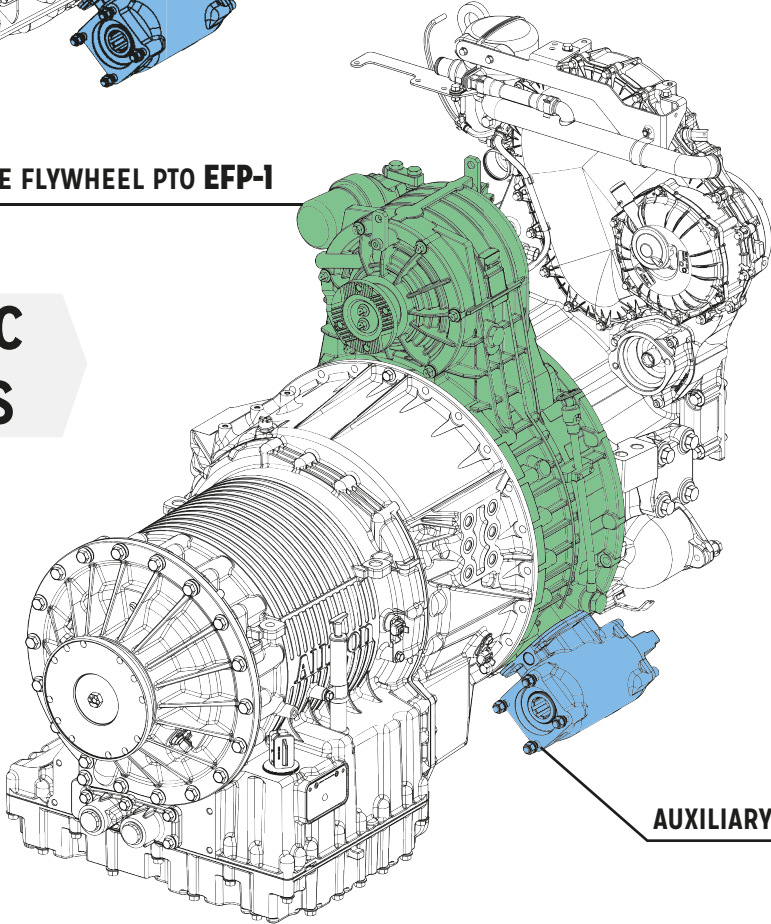
AUXILIARY PTO P097SI

Torque Nm:	270
PTO output ratio:	1:1,27
PTO rotation (from rear)	 (Opposite Engine)

ENGINE FLYWHEEL PTO EFP-1

for **FULL AUTOMATIC TRANSMISSIONS**

POSSIBILITY OF MOUNTING AUXILIARY PTOs ON BOTH SIDES SIMULTANEOUSLY



AUXILIARY PTO P097SI

ZF Traxon and Allison MD & HD gearboxes for reference only

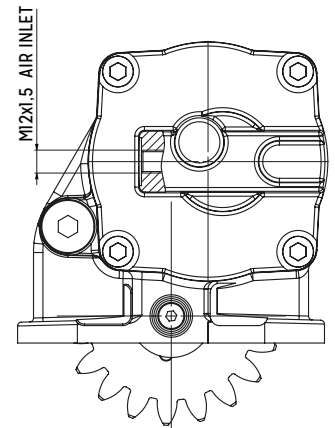
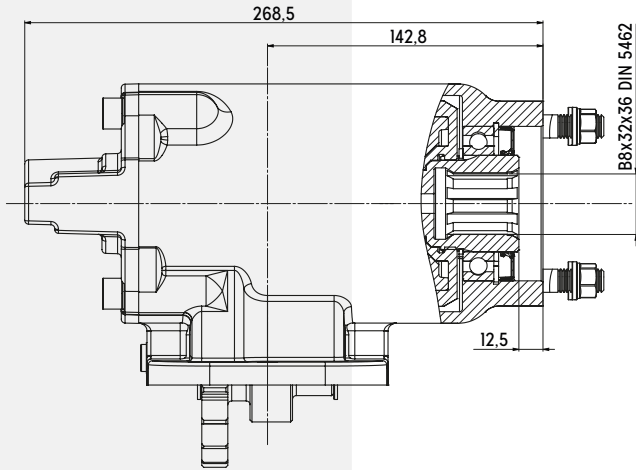
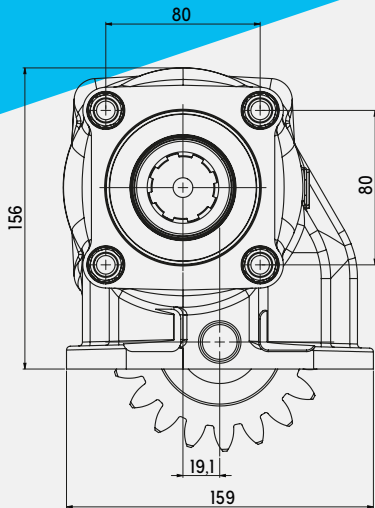
REMOTE ENGAGEMENT CONTROL

Fitted on the truck chassis, the **REMOTE ENGAGEMENT CONTROL** is the ideal solution for using the **EFP-1 Engine Flywheel PTO** in a limited space.



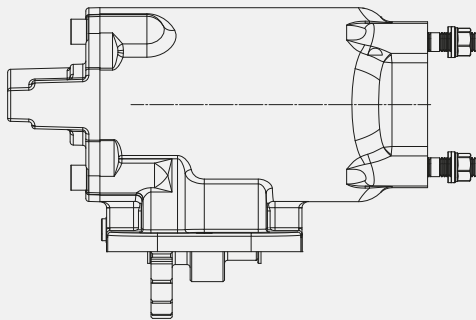
AUXILIARY PTOs

P097SI Series



AVAILABLE WITH PNEUMATIC CLUTCH OR CONSTANT DRIVE

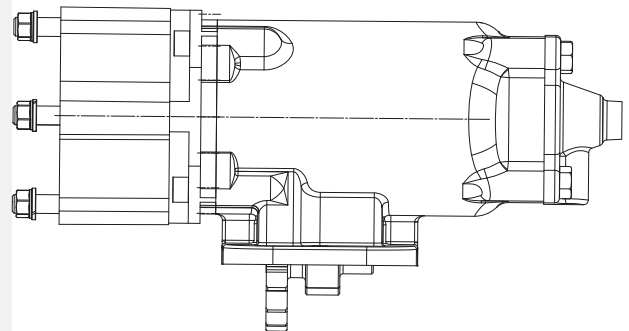
PTO P097SI ... 294



REAR OUTPUT




PTO P097SI ... 194



FRONT OUTPUT

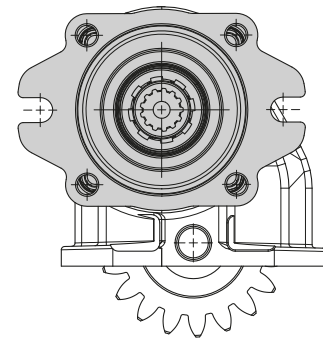
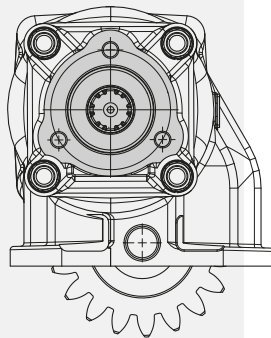
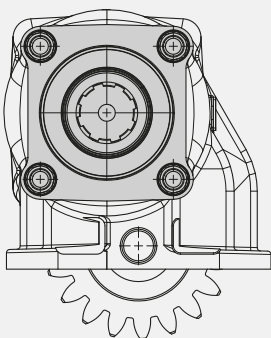


OUTPUT VERSIONS	MOUNTING SIDE	TORQUE Nm	PTO OUTPUT RATIO	PTO rotation (from rear)
P097SI...294	Right / Left (or both)	270	1,27	 (Opposite Engine)
P097SI...291				
P097SI...295				
P097SI...298				

PTO ... 294
4-holes SE - ISO 14 (DIN 5462)

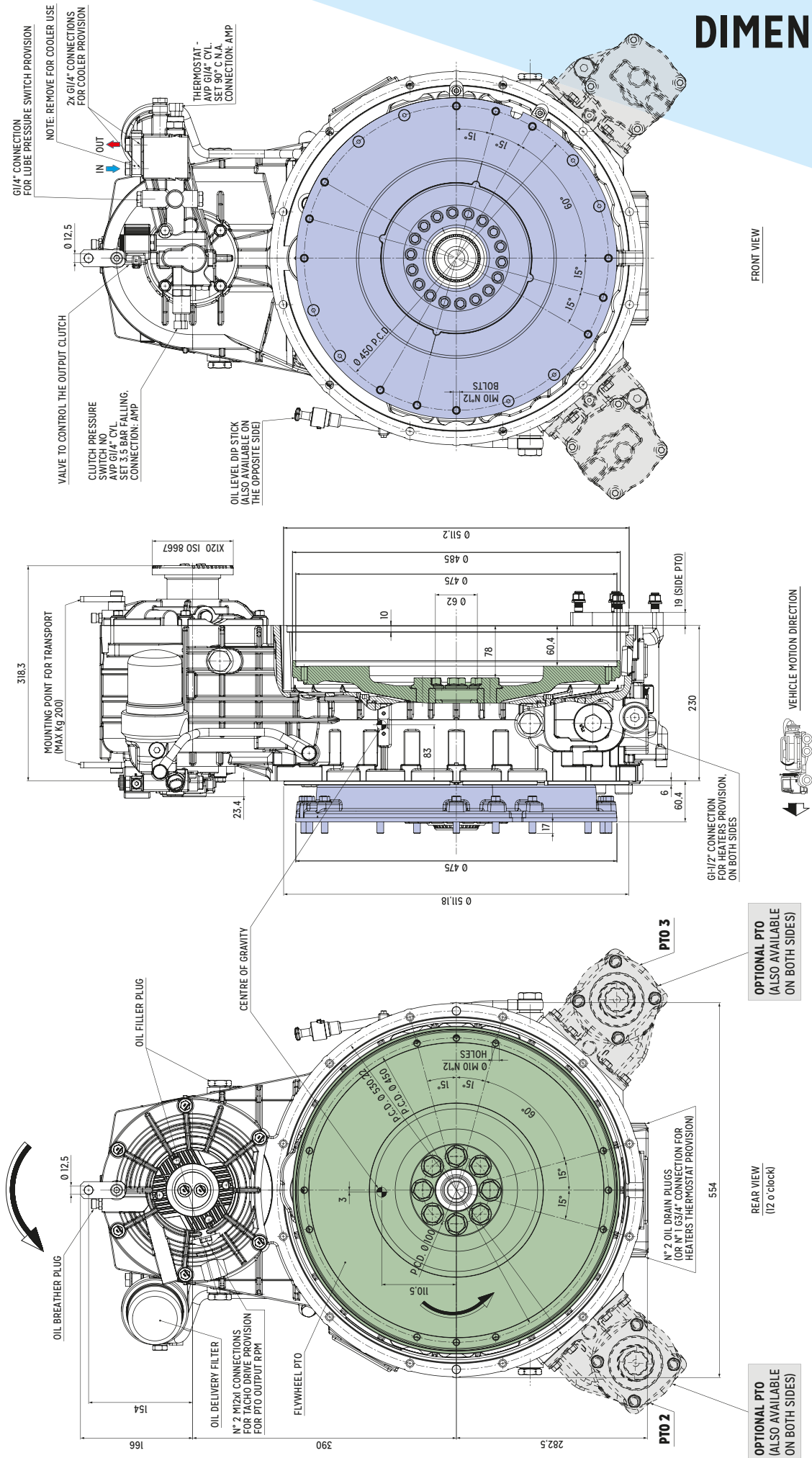
PTO ... 291
3-holes 21 UNI 221

PTO ... 295 / ... 298
Z13 SAE B / Z15 SAE B-B



Out-of-scale drawings

DIMENSIONS




Out-of-scale drawings

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