

# 2in1 Solutions

## The compact coupling /clutch combination



# Stromag

Founded in 1932, Stromag has grown to become a globally recognized leader in the development and manufacture of innovative power transmission components for industrial drivetrain applications. Stromag engineers utilize the latest design technologies and materials to provide creative, energy-efficient solutions that meet their customer's most challenging requirements.

Stromag's extensive product range includes flexible couplings, disc brakes, limit switches, an array of hydraulically, pneumatically, and electrically actuated brakes, and a complete line of electric, hydraulic and pneumatic clutches.

Stromag engineered solutions improve drivetrain performance in a variety of key markets including energy, off-highway, metals, marine, transportation, printing, textiles, and material handling on applications such as wind turbines, conveyor systems, rolling mills, agriculture and construction machinery, municipal vehicles, forklifts, cranes, presses, deck winches, diesel engines, gensets and stage machinery.



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# Altra Motion

Altra is a leading global designer and producer of a wide range of electromechanical power transmission and motion control components and systems. Providing the essential control of equipment speed, torque, positioning, and other functions, Altra products can be used in nearly any machine, process or application involving motion. From engine braking systems for heavy duty trucks to precision motors embedded in medical robots to brakes used on offshore wind turbines, Altra has been serving customers around the world for decades.

Altra's leading brands include **Ameridrives**, **Bauer** Gear Motor, **Bibby** Turboflex, **Boston** Gear, **Delevan**, **Delroyd** Worm Gear, **Formsprag** Clutch, **Guardian** Couplings, **Huco**, **Jacobs** Vehicle Systems, **Kilian**, **Kollmorgen**, **Lamiflex** Couplings, **Marland** Clutch, **Matrix**, **Nuttall** Gear, **Portescap**, **Stieber**, **Stromag**, **Svendborg** Brakes, **TB Wood's**, **Thomson**, **Twiflex**, **Warner** Electric and **Wichita** Clutch.

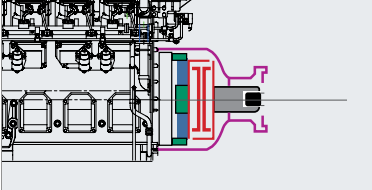
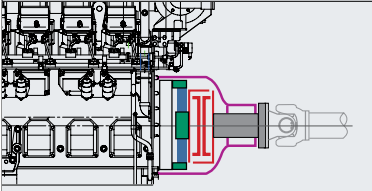
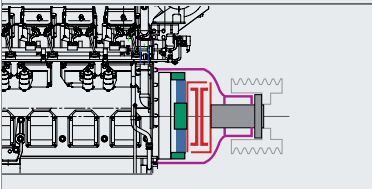
VISIT US ON THE WEB AT **ALTRAMOTION.COM**



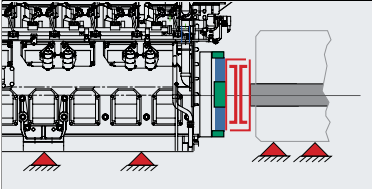
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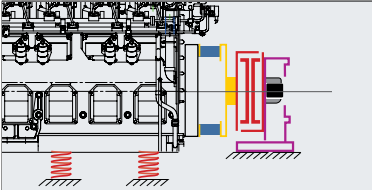
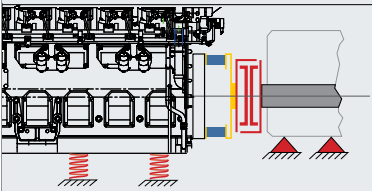
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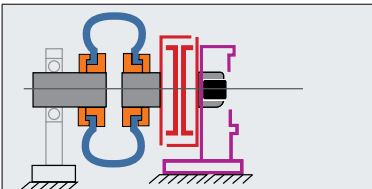
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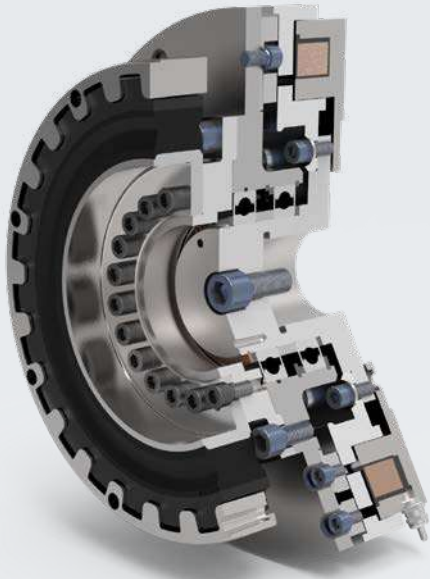
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## 2in1 – COUPLING/CLUTCH SOLUTIONS

### ELECTRIC



2in1 – Periflex®VN/MWU Combination



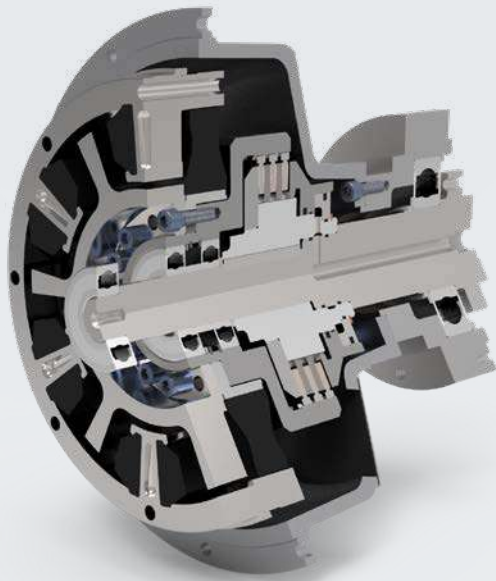
2in1 – SSC/MWU Combination

Altra is the only company worldwide that manufactures elastic couplings as well as a wide range of switchable clutches.

Stromag's "2in1 solutions" enable the unique possibility to take this big advantage for nearly every drivetrain application. We simply combine the elastic coupling and the switchable clutch in a compact and smart design. The calculation and selection of both parts from Stromag's well proven product portfolio is done by our support according to the needed specification.



### HYDRAULIC



2in1 – Periflex® VN/KHA Combination

### PNEUMATIC



2in1 – Periflex® VN/KPR Combination

- No time-consuming interface clarification meetings between elastic coupling and clutch supplier
- Space and cost saving design
- Plug and play solutions lead to reduced assembly times on site
- Suitable 2in1 solutions for nearly every combination between M/E, E-motor, pumps, generators and belt drives are available

## 2in1 COUPLING/CLUTCH COMBINATION

### BENEFITS INCLUDE

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- Electromagnetic, hydraulic or pneumatic clutch actuations
- Optional bell housings
- Drivetrain torsional vibration analysis for OEM applications
- Additional bearing supports
- Tailormade or standardized (SAE, etc.) interfaces



### CLASSIFICATIONS



For survey of the coupling by a classification society, the regulations of the society have to be adhered to. The coupling characteristics may differ from the definitions given in this catalogue. Accordingly prepared data sheets are available on request.

A number of classification societies prescribe fail-safe devices on ships main drives.

## THE TORSIONAL VIBRATION ANALYSIS

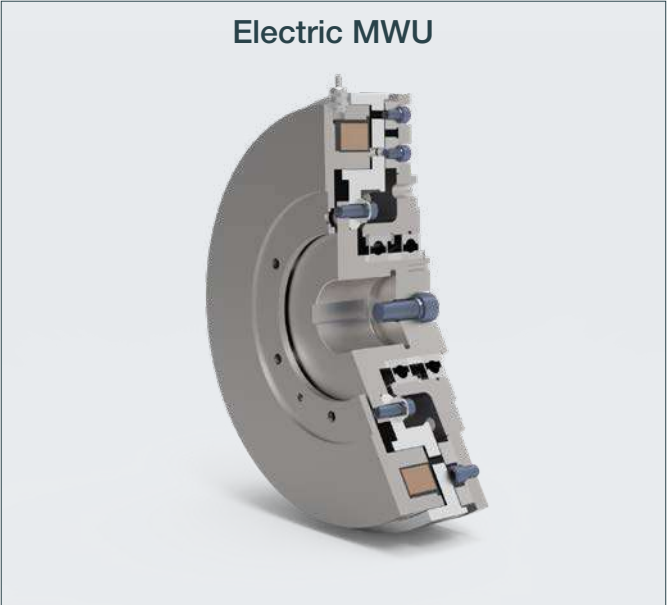


Stromag's know-how in Torsional Vibration Analysis (TVA) constitutes the core of each coupling design. It provides a comprehensive analysis of loads in the crankshaft, coupling and driven side to ensure that critical speeds can be moved per application requirements.

Unevenly rotating systems can severely degrade product quality and cause great harm to the powertrain. On a daily basis, the TVA experts at Stromag work on the challenge of detecting such deviations by measuring them and protecting the entire powertrain with ideal product selection. Stromag is capable of calculating stationary and transient operating conditions considering the stiffness and damping of the elastomers.

# Stromag – Clutches and Brakes

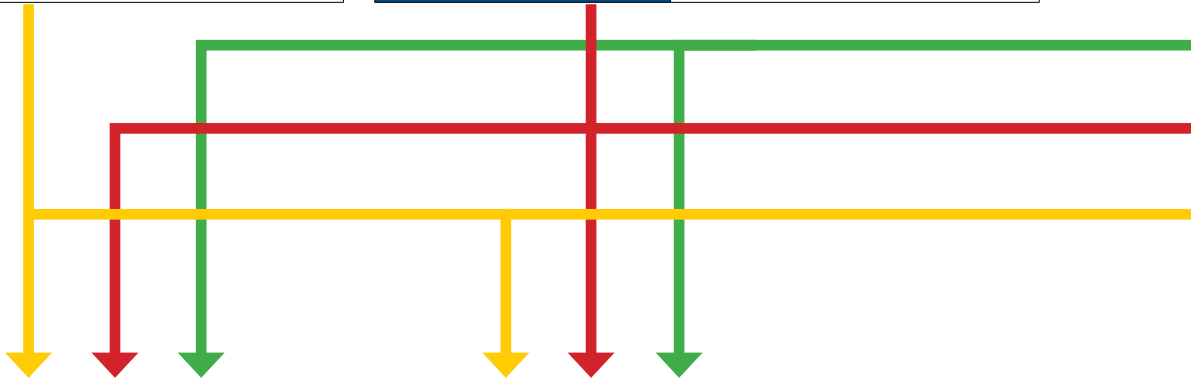
## 2in1 – Clutch and Coupling Combination



Size	20 – 1600
Torque [Nm]	400 – 20800
Outer diameter [mm]	192 – 690



Size	70 – 500
Torque [Nm]	690 – 6100
Outer diameter [mm]	220 – 370



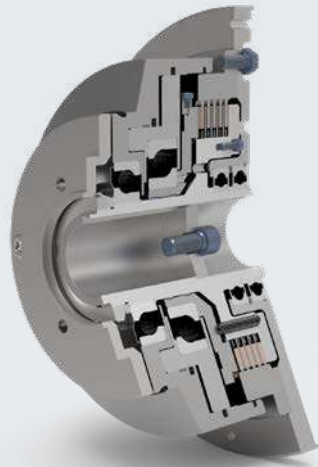
Size	183 – 726
Torque [Nm]	200 – 31500
Outer diameter [mm]	6,5" – 24"



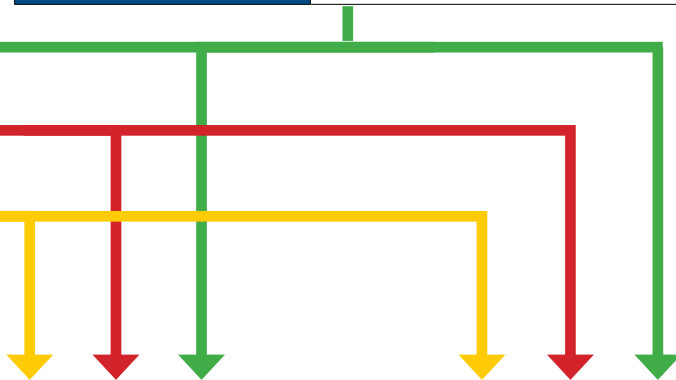
Size	11,5 – 14
Torque [Nm]	2550 – 4170
Outer diameter [mm]	11,5" – 14"



Pneumatic KPR



Size	20 – 900
Torque [Nm]	20 – 9200
Outer diameter [mm]	116 – 435

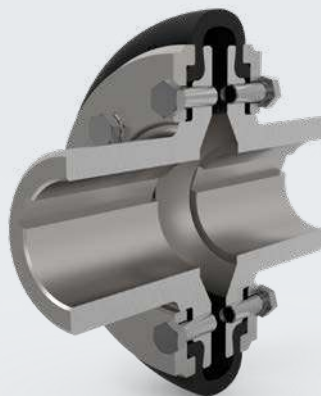


TEF



Size	31 – 124
Torque [Nm]	2000 – 63000
Outer diameter [mm]	11,5" – 24"

PERIFLEX® NA COUPLINGS



Size	201 R – 1832 R
Torque [Nm]	25 – 15000
Outer diameter [mm]	86 – 700

Additional options  
for your 2in1 Solution



Bell housing



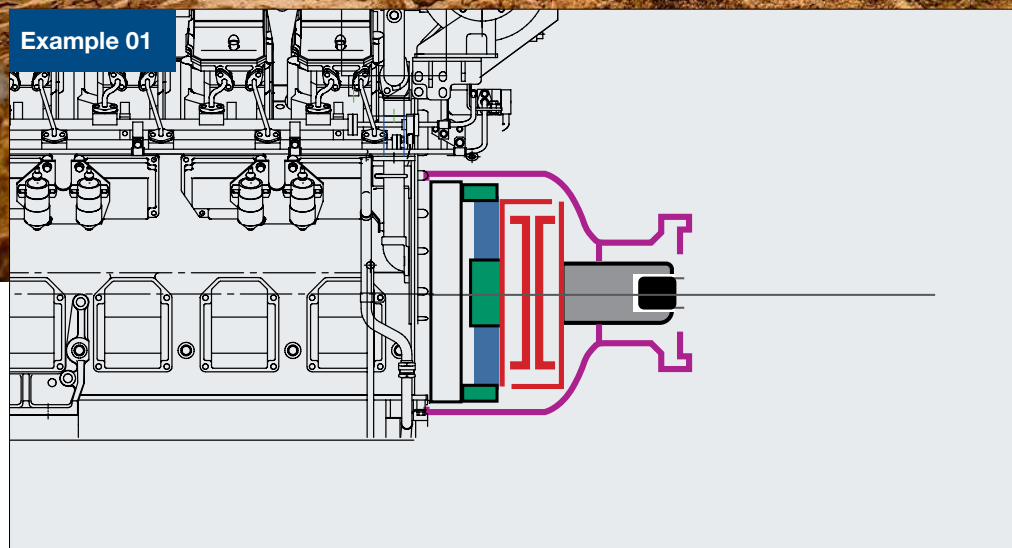
Stand



Internet of  
Things

Other sizes upon request

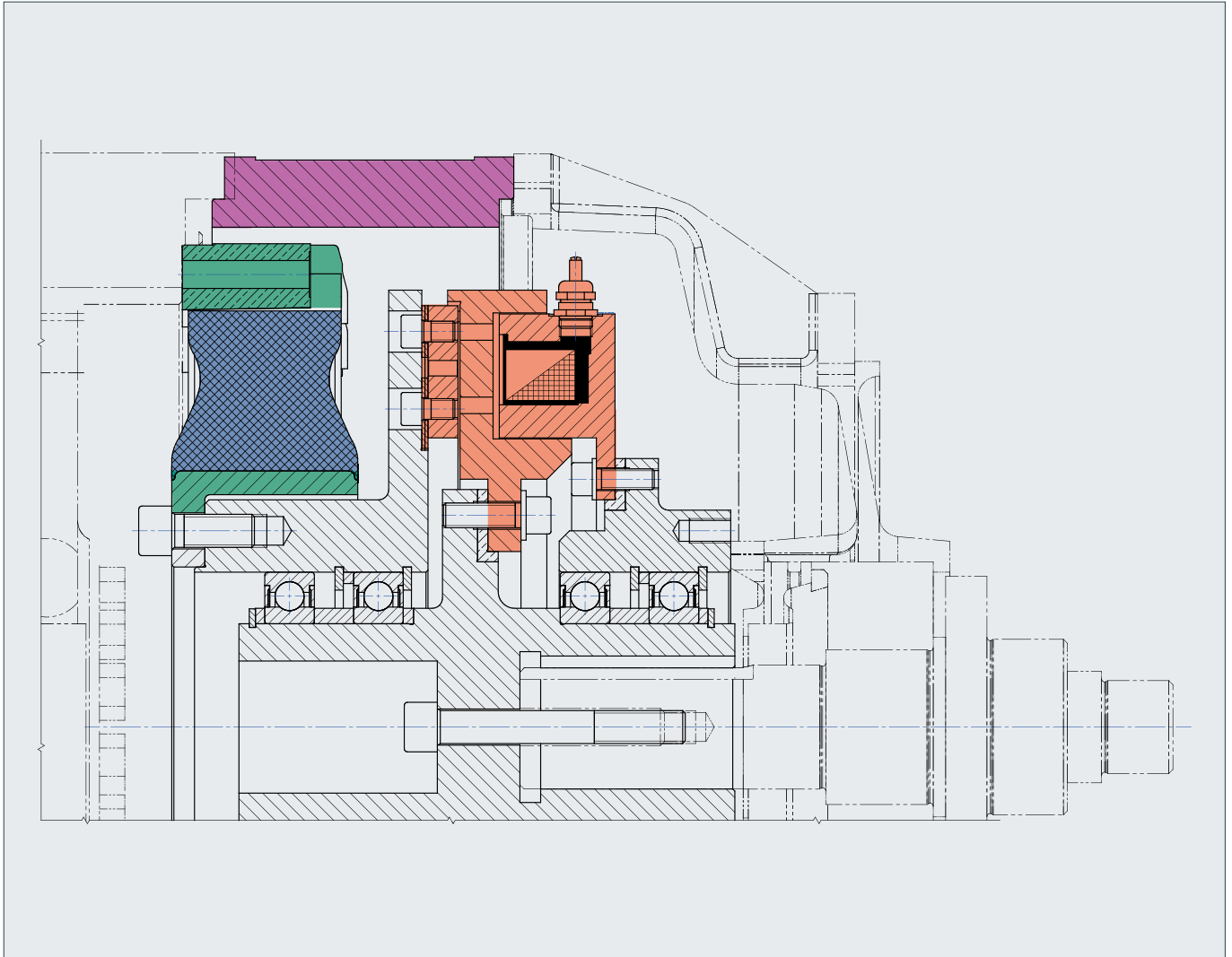
### **1** Enclosed 2in1 Solution for pump drives



#### The standards includes:

- Enclosed unit for direct mounting on internal combustion engines according to the SAE standard
- Output-side preparation for connecting work machines
- “Plug and Play” Solution

**Example application:** Compact 2in1 solution, consisting of our flexible coupling, Periflex® VN and electromagnetic pole-face friction clutch, MWU for connecting and disconnecting various pumps and compressors, for example in **construction** machinery.



Technical data		
2in1 combination	MWU 160-400 Periflex® VN 43611	
Static torque	[Nm]	5600
max. admissible speed	[1/min]	1800
Torsional stiffness	[Nm/rad]	25400
Connection drive side	engine housing connection	SAE 1
	flywheel connection	SAE 14"
Connection driven side	Shaft-Ø 60mm / Key	
Outer diameter	[mm]	552
Length	[mm]	288,5
Weight	[kg]	171
Actuation method	engaged by electrical current	

### Customer specific features:

- Integration into existing drive system
- Bell housing adapted to expand the existing installation space
- Customer adjustment unnecessary due to internal bearings
- Deactivation of the output with almost no residual torque



### **1** Enclosed 2in1 Solution for cardan shaft connection

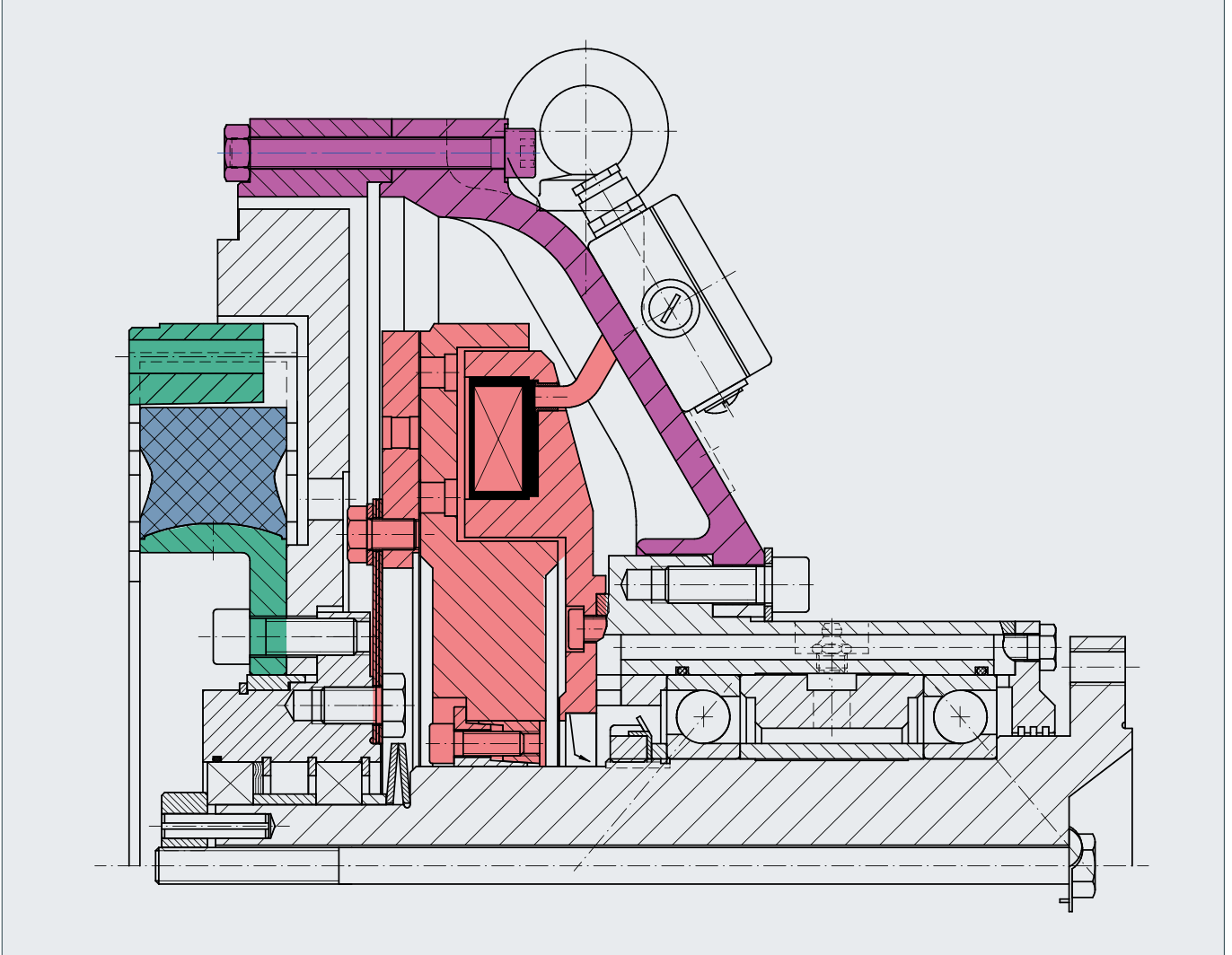


#### The standards includes:

- Enclosed unit for direct mounting on internal combustion engines according to the SAE standard
- Output-side preparation for connecting cardan shafts
- “Plug and Play” Solution



**Example application:** Compact 2in1 solution, consisting of our flexible coupling, Periflex® VN and electromagnetic pole-face friction clutch, MWU for connecting and disconnecting various work equipment, for example on municipal vehicles.

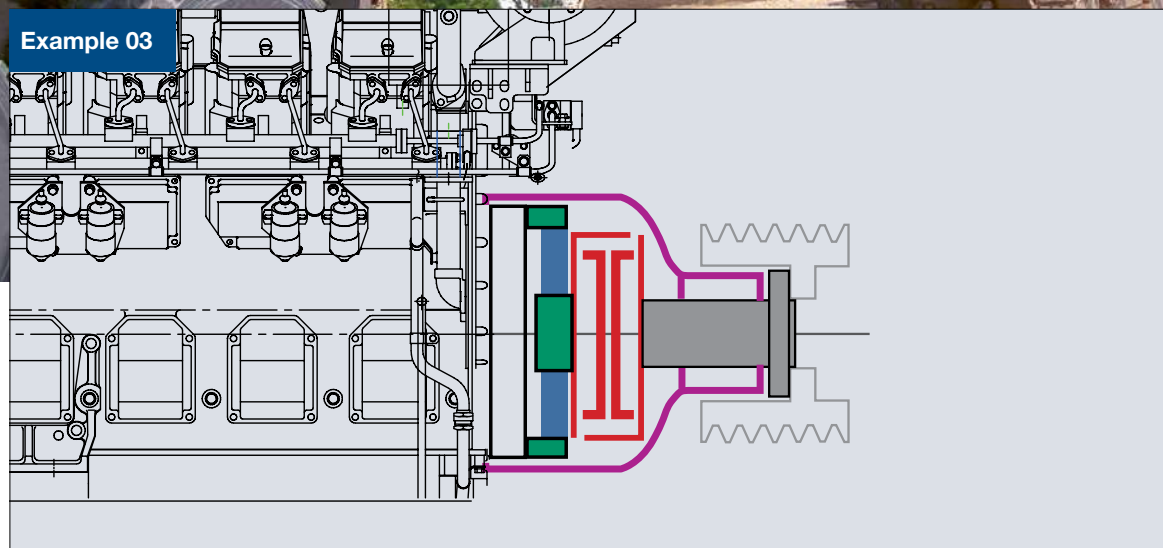


Technical data		
2in1 combination	MWU 60-150 Periflex® VN 358	
Static torque	[Nm]	2100
max. admissible speed	[1/min]	1800
Torsional stiffness	[Nm/rad]	16700
Connection drive side	engine housing connection	SAE 2
	flywheel connection	SAE 11,5"
Connection driven side	Flange / pitch circle diameter 130 mm	
Outer diameter	[mm]	489
Length	[mm]	326
Weight	[kg]	120
Actuation method	engaged by electrical current	

### Customer specific features:

- Easy installation in drivetrain
- Central wear adjustment
- Integrated additional mass for vibration damping
- Robust cardan shaft bearing

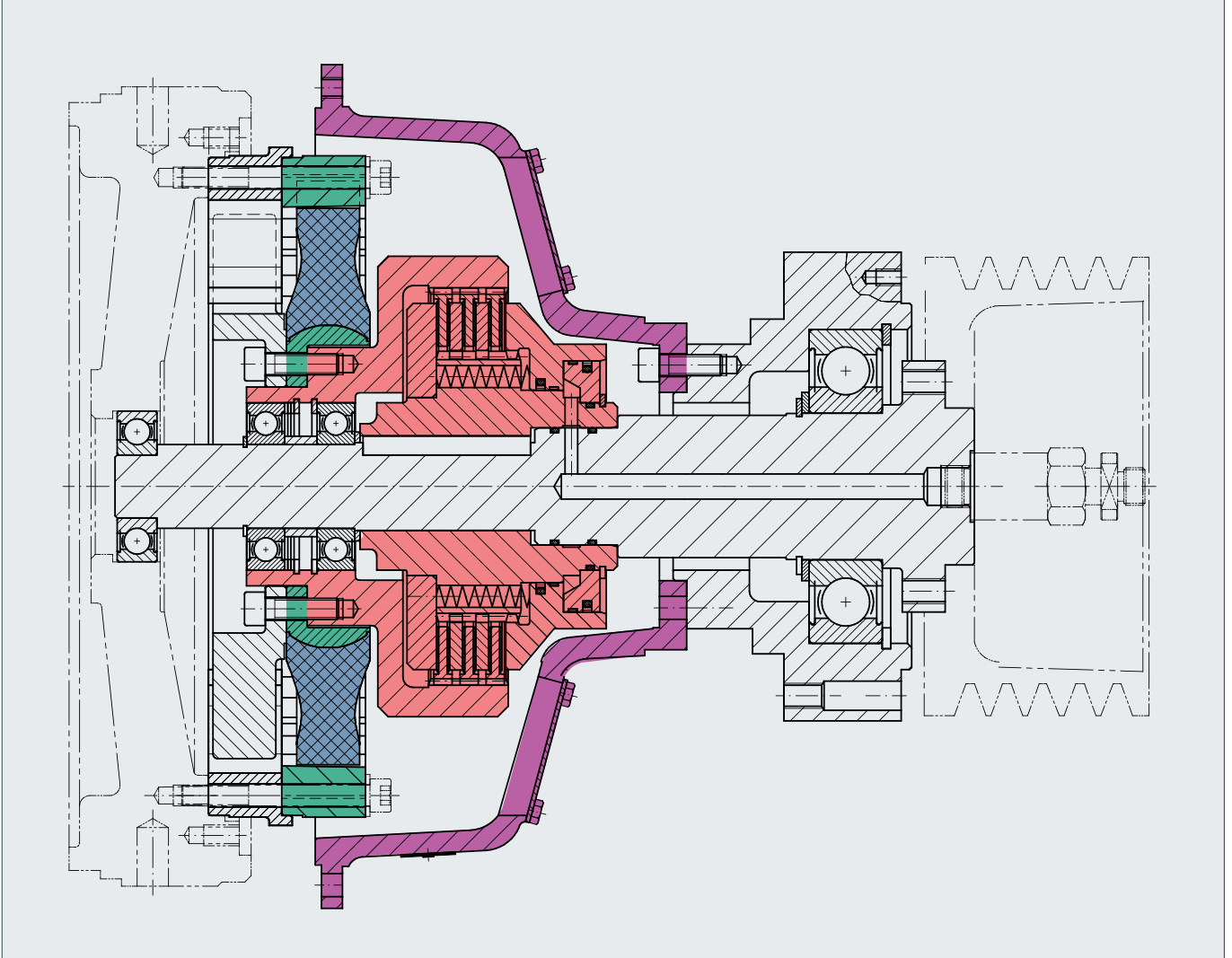
### **1** Enclosed 2in1 Solution for pulley connection



#### The standards includes:

- Enclosed unit for direct mounting on internal combustion engines according to the SAE standard
- Preparation on the output side for connecting belt drives
- “Plug and Play” solution

**Example application:** Compact 2in1 solution, consisting of our flexible coupling, Periflex® VN and hydraulic multi-disc clutch, KHA for connecting and disconnecting various tools via belt drives, e.g. in asphalt milling machines.

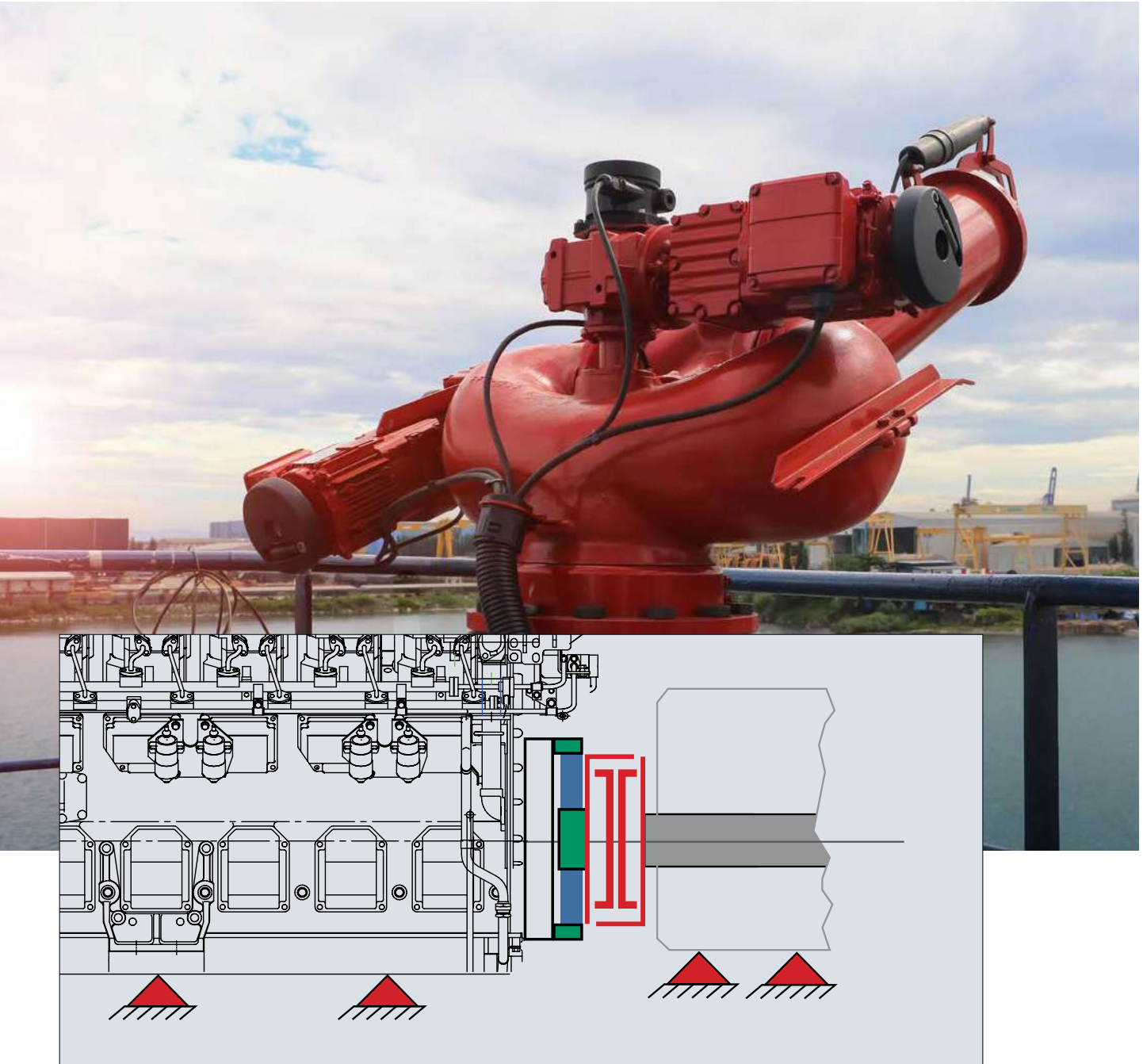


Technical data		
2in1 combination	KHA 130 Periflex®VN/Periflex®IC	
Static torque	[Nm]	1100
max. admissible speed	[1/min]	2250
Torsional stiffness	[Nm/rad]	3760
Connection drive side	engine housing connection	SAE 4
	flywheel connection	SAE 10"
Connection driven side	Flange / pitch circle diameter 100 mm	
Outer diameter	[mm]	403,2
Length	[mm]	410,6
Weight	[kg]	78,3
Actuation method	hydraulic	

### Customer specific features:

- High power density due to compact disk design
- Integrated pilot bearing
- Central and easily accessible pressurized oil supply
- Robust pulley bearing

### 2 Non-enclosed 2in1 Solution for pump drives

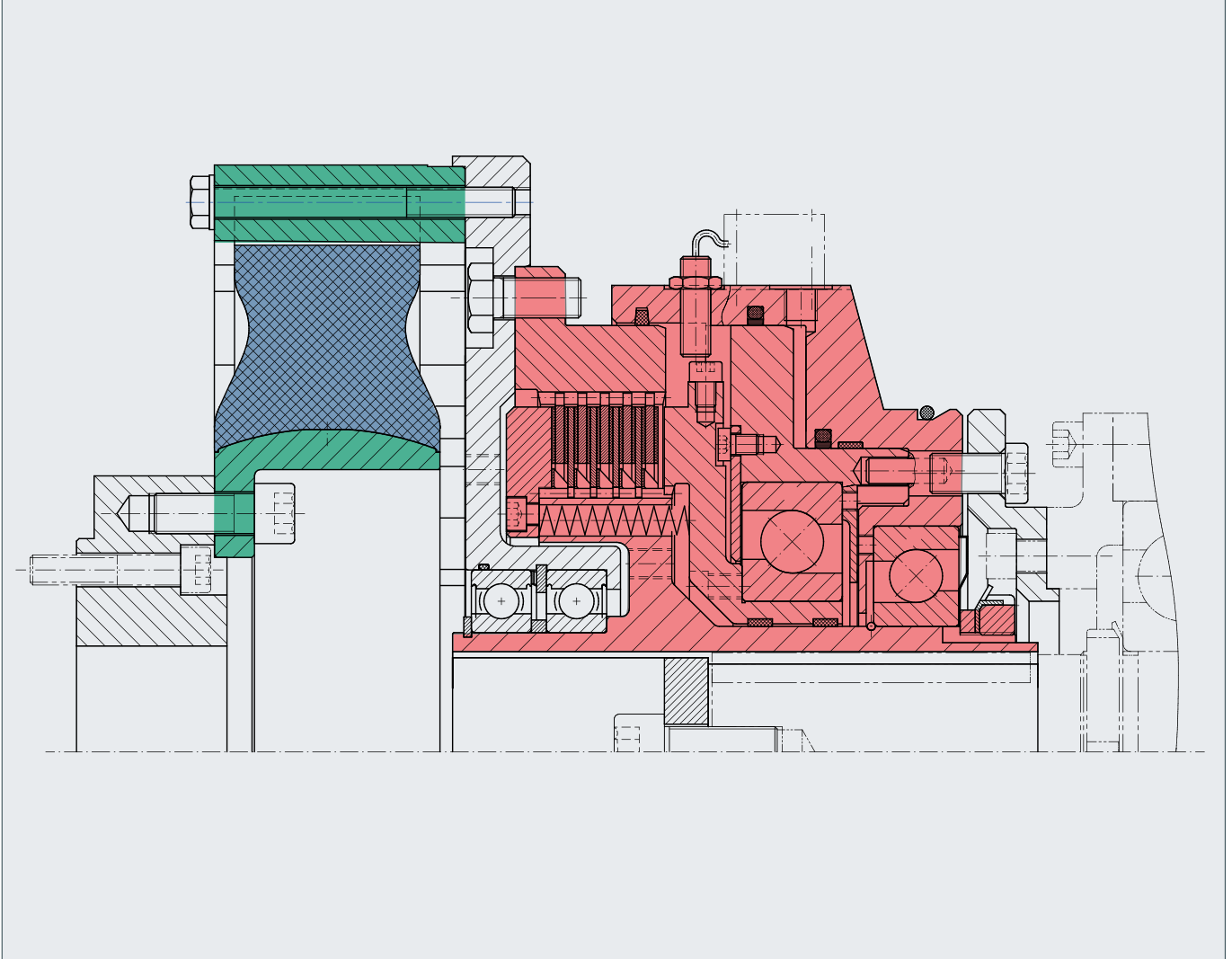


#### The standards includes:

- Engine and work machine fixed installation
- Compact design
- “Plug and Play” solution



**Example application:** Compact 2in1 solution, consisting of our flexible coupling, Periflex® VN and pneumatic multi-disc clutch, KPR for connecting and disconnecting various pumps and compressors, e.g. fire pumps.

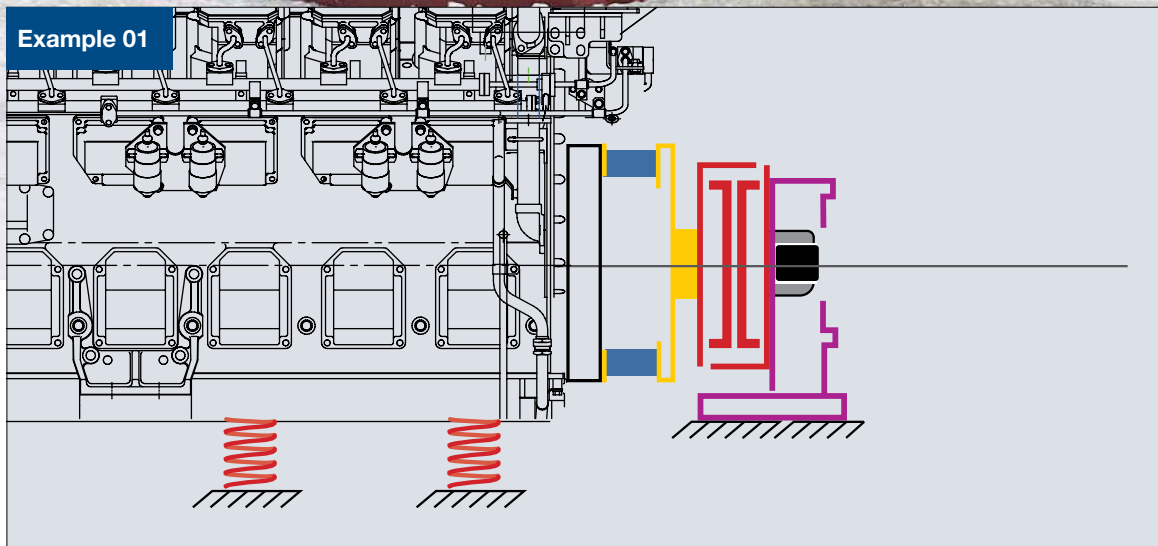
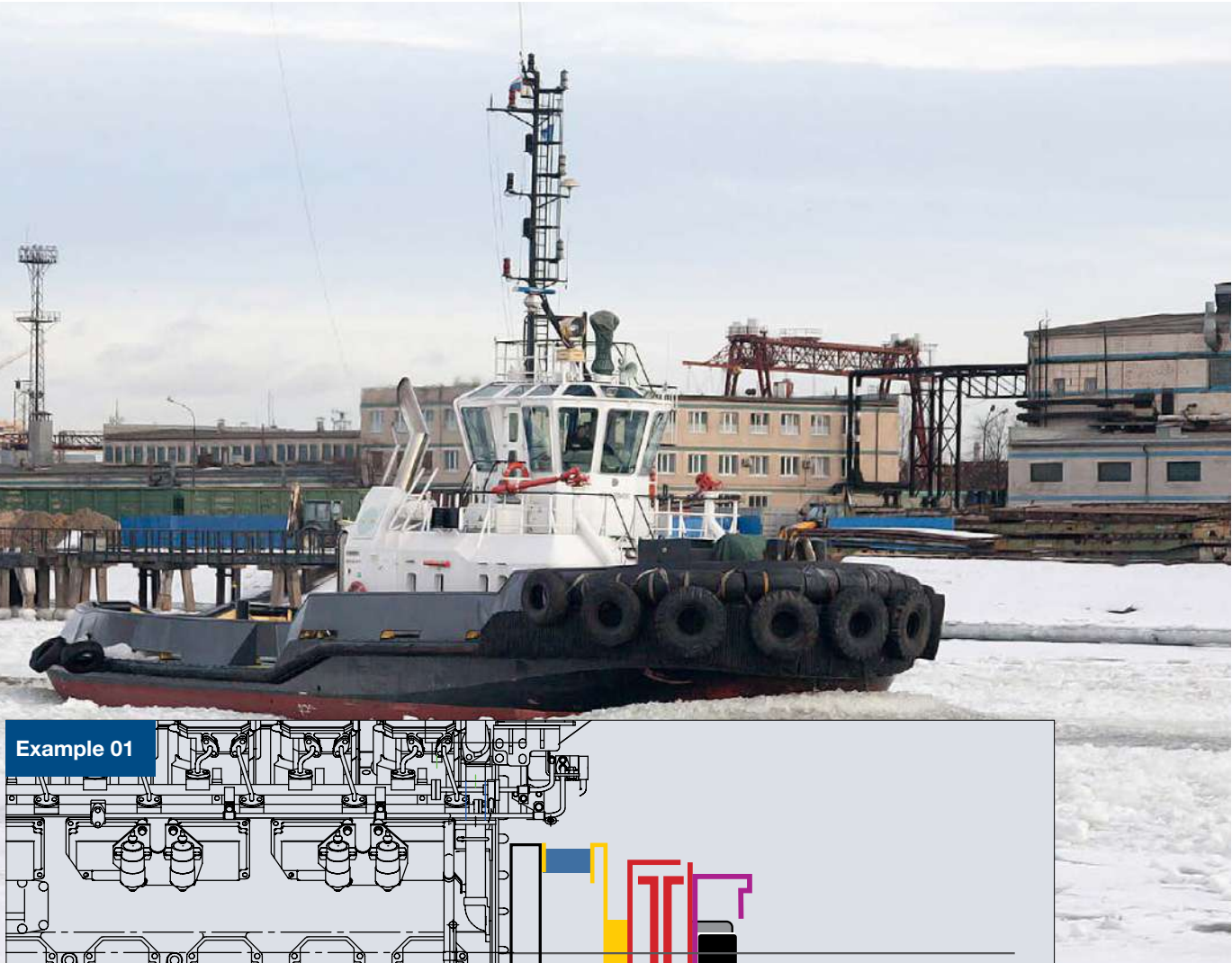


Technical data		
<b>2in1 combination</b>	<b>KPR 800 Periflex®VN 43611</b>	
Static torque	[Nm]	7000
max. admissible speed	[1/min]	1800
Torsional stiffness	[Nm/rad]	25400
Connection drive side	engine housing connection	D170 h6
	flywheel connection	D145 6x60°
Connection driven side	Shaft-Ø 70mm / Key	
Outer diameter	[mm]	475
Length	[mm]	380
Weight	[kg]	185
Actuation method	pneumatic	

### Customer specific features:

- Radial compressed air supply
- High power density due to compact disk design
- Integrated sensor for RPM detection

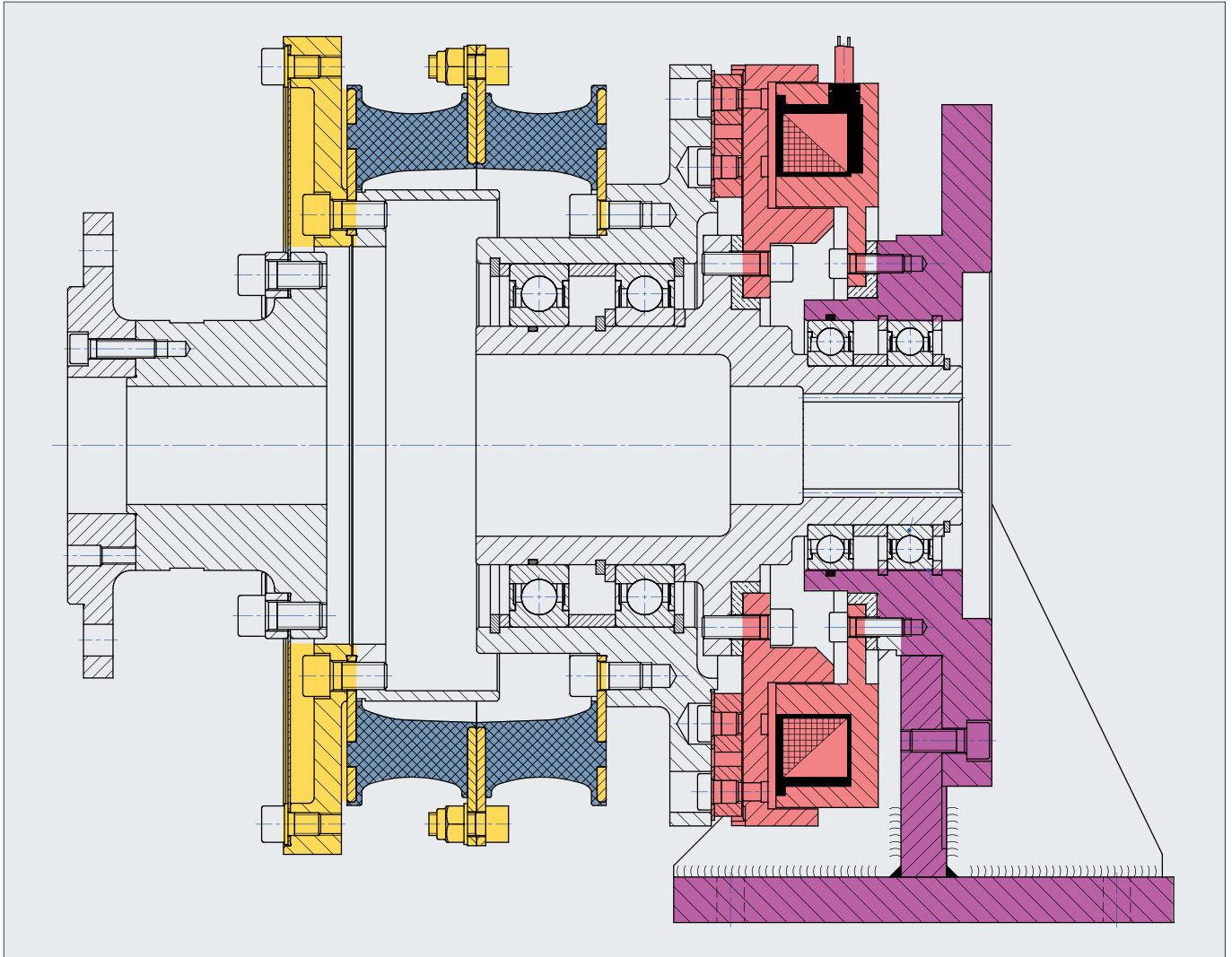
### 3 Non-Enclosed 2in1 Solution for PTO/PTI drives



#### The standards includes:

- Internal engine, flexible installation
- Stand-alone design
- Integrated stand for mounting the work machine, stand-alone version

**Example application:** Compact 2in1 solution, consisting of our flexible coupling, TEF and electromagnetic pole-face friction clutch, MWU for connecting and disconnecting PTO/PTI units, e.g. hydraulic pump.

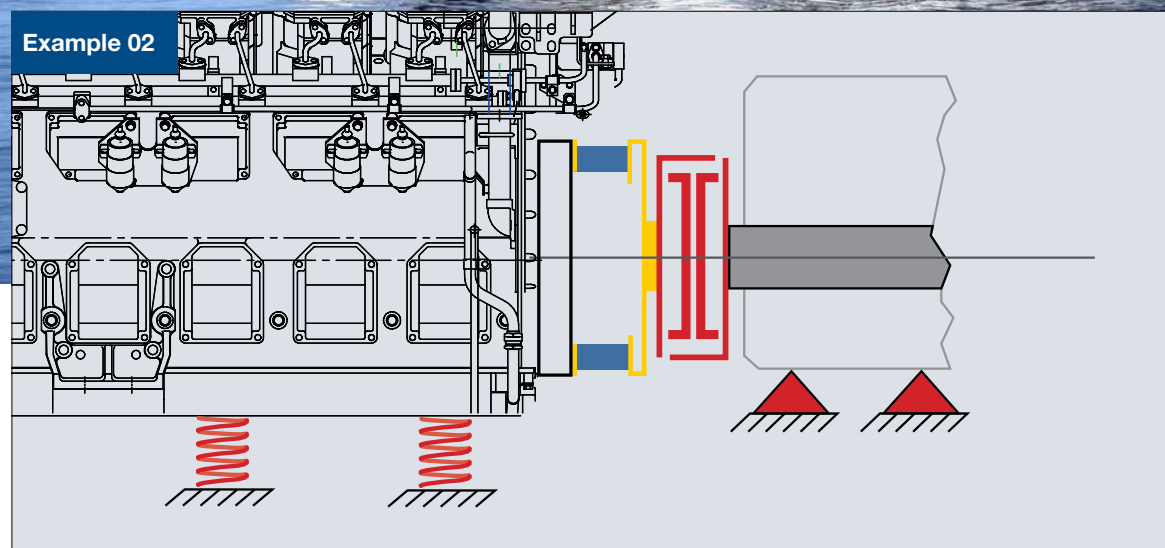
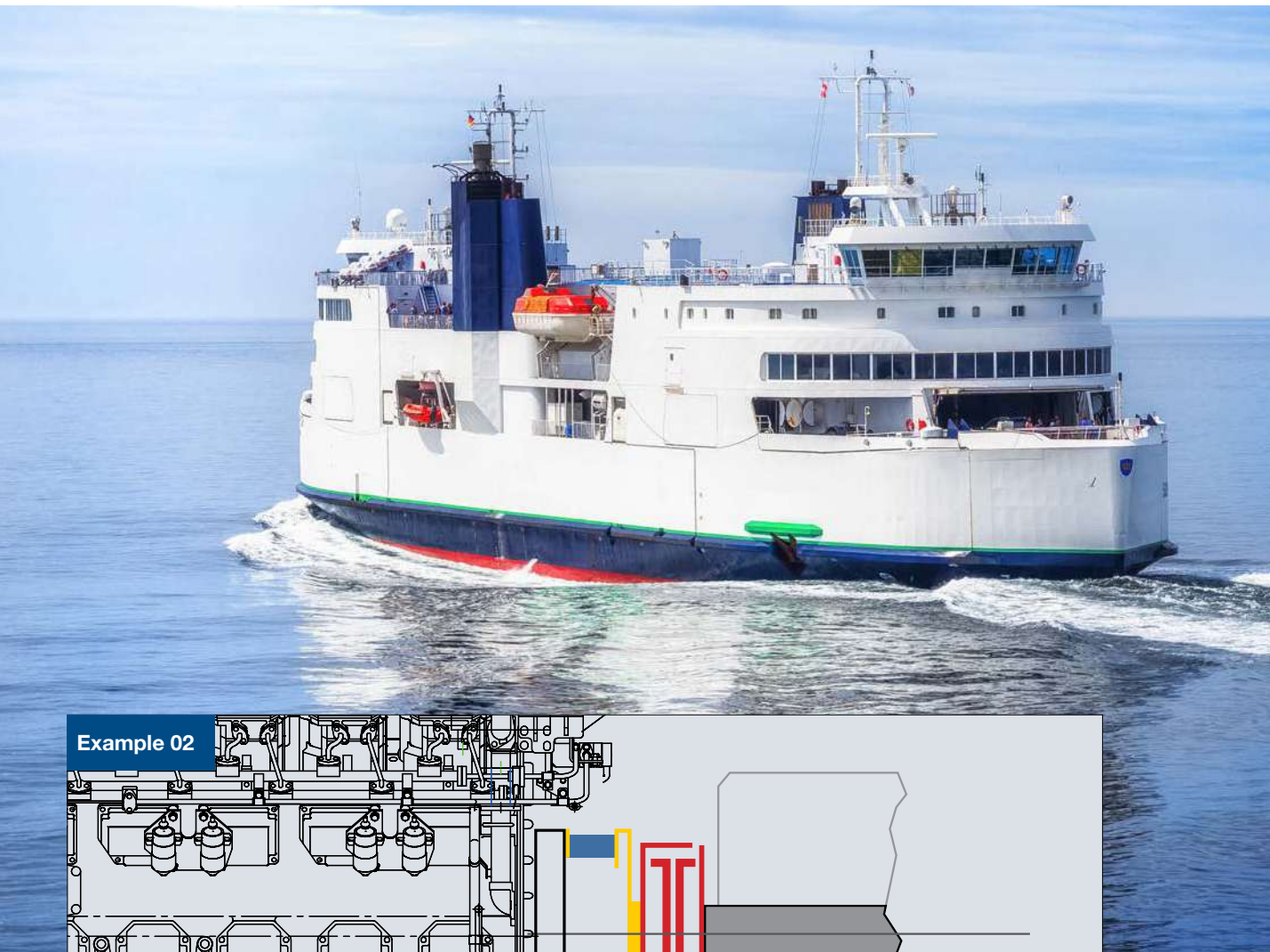


Technical data		
2in1 combination	MWU 80-200 TEF 311	
Static torque	[Nm]	2600
max. admissible speed	[1/min]	2000
Torsional stiffness	[Nm/rad]	6900
Connection drive side	engine housing connection	Flange / pitch circle diameter 171,45 mm
	flywheel connection	
Connection driven side	Shaft-Ø 38,25mm / gearing ANSI B92.1 DP8/16 13 teeth	
Outer diameter	[mm]	335
Length	[mm]	406,7
Weight	[kg]	131,6
Actuation method		engaged by electrical

### Customer specific features:

- Adapted pump connection on the stand
- In addition to torsional vibration damping, radial, axial and angular displacement permitted
- Deactivation of the output with almost no residual torque
- Easy installation in drivetrain

### 3 Non-enclosed 2in1 Solution for hybrid drives

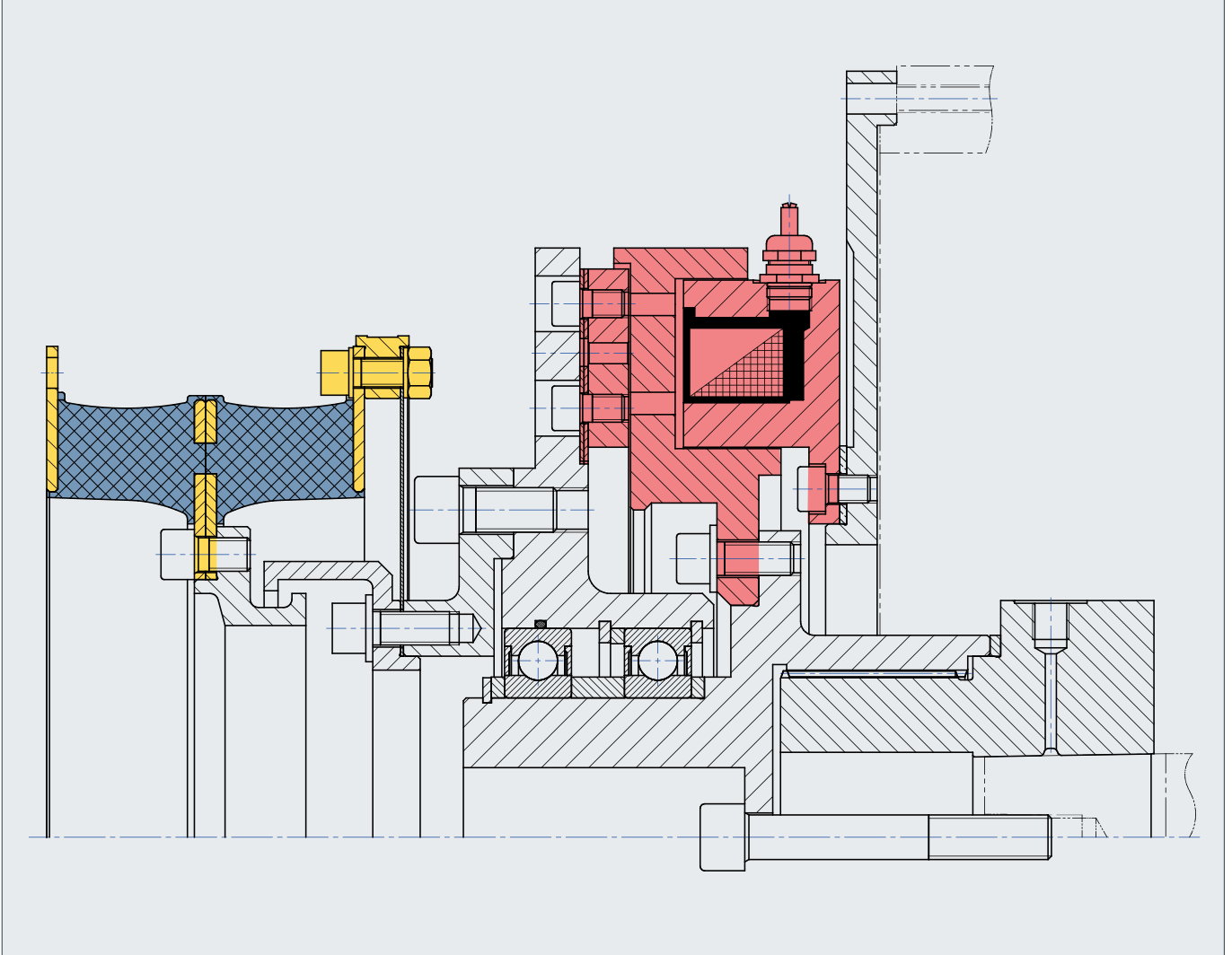


#### The standards includes:

- Internal combustion engine, flexible installation
- Flexible adaptation options
- Easy accessibility



**Example application:** Compact 2in1 solution consisting of our flexible coupling, TRI and electromagnetic pole-face friction clutch, MWU for connecting and disconnecting hybrid drives, such as electric motors and generators.

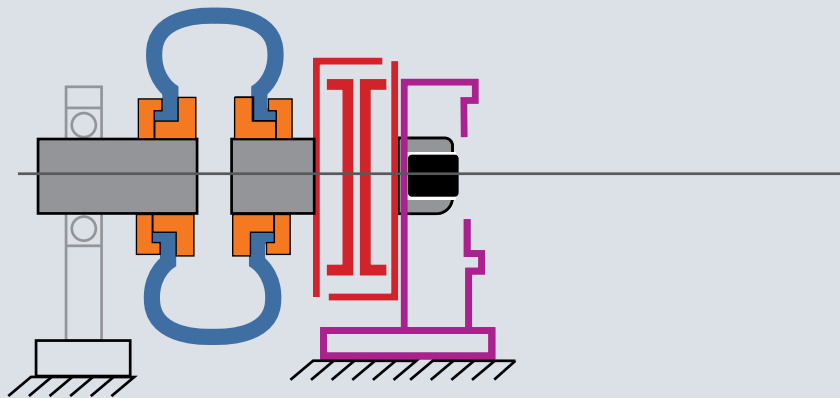


Technical data		
2in1 combination	MWU 160-400 TEF 322	
Static torque	[Nm]	5200
max. admissible speed	[1/min]	2600
Torsional stiffness	[Nm/rad]	14500
Connection drive side	engine housing connection	SAE 1
	flywheel connection	SAE 11,5"
Connection driven side	Shaft-Ø 60mm / Tapered connction	
Outer diameter	[mm]	550
Length	[mm]	397,3
Weight	[kg]	152,6
Actuation method	engaged by electrical current	

### Customer specific features:

- In addition to torsional vibration damping, radial, axial and angular displacement permitted.
- Deactivation of the output with almost no residual torque

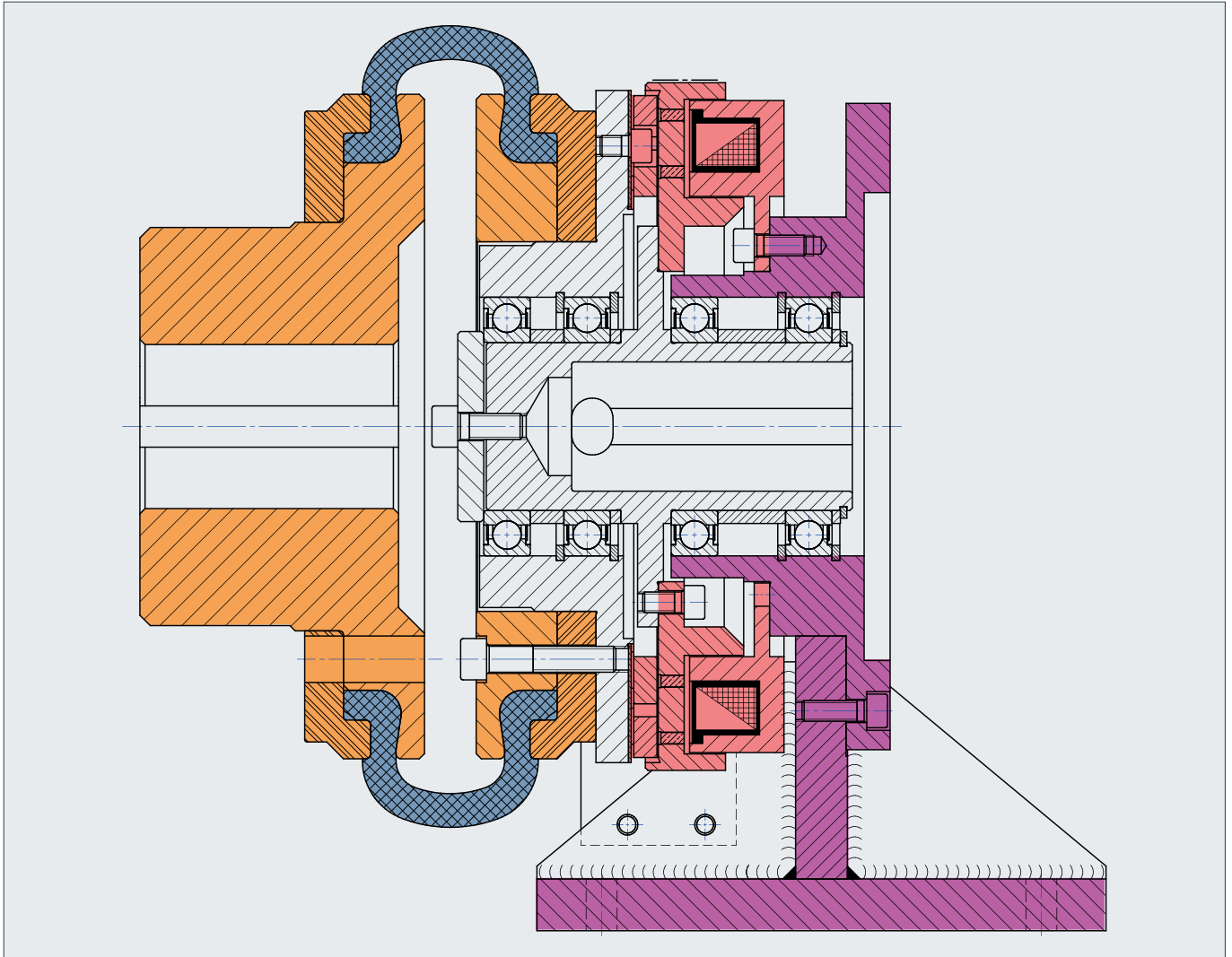
### **4** Simple 2in1 Solution for PTO/PTI drives



#### The standards includes:

- Flexible coupling for compensating radial, axial and angular displacements between drive and work machine
- Shaft-shaft variant
- Integrated stand for mounting the work machine, stand-alone version

**Example application:** Compact 2in1 solution, consisting of our flexible coupling, Periflex® NA and electromagnetic pole-face friction clutch, MWU for connecting and disconnecting PTO/PTI units, e.g. compressor.



Technical data		
2in1 combination	MWU 40-100 Periflex® TT 310 R	
Static torque	[Nm]	1300
max. admissible speed	[1/min]	1800
Torsional stiffness	[Nm/rad]	18500 - 25500
Connection drive side	engine housing connection	Shaft Ø 63,475 H7 / Key
	flywheel connection	
Connection driven side	Shaft-Ø 50mm / Key	
Outer diameter	[mm]	310
Length	[mm]	290
Weight	[kg]	84,1
Actuation method		engaged by electrical current

### Customer specific features:

- Adapted pump connection on the stand
- Radial, axial and angular displacement permitted.
- Deactivation of the output with almost no residual torque
- Easy installation in drivetrain

## Stromag Facilities

### Europe

#### Germany

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+49 (0) 23 03 102 0

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Geared Cam Limit Switches, Discs*

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06844 Dessau-Roßlau - Germany  
+49 (0) 340 2190 0

*Electromagnetic Clutches & Brakes*

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18150 La Guerche sur L'Aubois - France  
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*Disc Brakes & Drum Brakes*

#### Great Britain

Amphill Road  
Bedford, MK42 9RD - UK  
+44 (0)1234 324347

*Electromagnetic Clutches & Brakes,  
Industrial Caliper Brakes*

### North America

#### USA

31 Industrial Park Road  
New Hartford, CT 06057 - USA  
860-238-4783

*Electromagnetic Clutches & Brakes*

300 Indiana Highway 212  
Michigan City, IN 46360 - USA  
219-874-5248

*Couplings*

2800 Fisher Rd.  
Wichita Falls, TX 76302 - USA  
940-723-3400

*Geared Cam Limit Switches,  
Industrial Caliper & Drum Brakes*

### South America

#### Brasil

Avenida João Paulo Ables, 2970  
Jardim da Glória, Cotia - SP,  
06711-250 - Brasil  
+55 (11) 4615-6300

*Flexible Couplings, Bearing  
Isolators, and Coupling Guards*

### Asia Pacific

#### China

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Pudong 201206, Shanghai - China  
Tel +86 21-60580600

*Clutches & Brakes, Electromagnetic  
Clutches & Brakes, Couplings, Industrial  
Caliper & Drum Brakes, Discs, Geared  
Cam Limit Switches*

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Tal Khed, Pune- 410 501  
+91 2135 622100

*Clutches & Brakes, Electromagnetic  
Clutches & Brakes, Couplings, Industrial  
Caliper & Drum Brakes, Discs, Geared  
Cam Limit Switches, Wind Brakes*

### Altra Renewable Energy

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Jernbanevej 9  
5882 Vejstrup  
+45 63 255 255

*Wind Brakes*

## The Brands of Altra Motion

### Couplings

**Ameridrives**  
[www.ameridrives.com](http://www.ameridrives.com)

**Bibby Turboflex**  
[www.bibbyturboflex.com](http://www.bibbyturboflex.com)

**Guardian Couplings**  
[www.guardiancouplings.com](http://www.guardiancouplings.com)

**Huco**  
[www.huco.com](http://www.huco.com)

**Lamiflex Couplings**  
[www.lamiflexcouplings.com](http://www.lamiflexcouplings.com)

**Stromag**  
[www.stromag.com](http://www.stromag.com)

**TB Wood's**  
[www.tbwoods.com](http://www.tbwoods.com)

### Linear Systems

**Thomson**  
[www.thomsonlinear.com](http://www.thomsonlinear.com)

### Geared Cam Limit Switches

**Stromag**  
[www.stromag.com](http://www.stromag.com)

### Engineered Bearing Assemblies

**Kilian**  
[www.kilianbearings.com](http://www.kilianbearings.com)

### Electric Clutches & Brakes

**Matrix**  
[www.matrix-international.com](http://www.matrix-international.com)

**Stromag**  
[www.stromag.com](http://www.stromag.com)

**Warner Electric**  
[www.warnerelectric.com](http://www.warnerelectric.com)

### Belted Drives

**TB Wood's**  
[www.tbwoods.com](http://www.tbwoods.com)

### Heavy Duty Clutches & Brakes

**Twiflex**  
[www.twiflex.com](http://www.twiflex.com)

**Stromag**  
[www.stromag.com](http://www.stromag.com)

**Svendborg Brakes**  
[www.svendborg-brakes.com](http://www.svendborg-brakes.com)

**Wichita Clutch**  
[www.wichitaclutch.com](http://www.wichitaclutch.com)

### Gearing & Specialty Components

**Bauer Gear Motor**  
[www.bauergears.com](http://www.bauergears.com)

**Boston Gear**  
[www.bostongear.com](http://www.bostongear.com)

**Delevan**  
[www.delevan.com](http://www.delevan.com)

**Delroyd Worm Gear**  
[www.delroyd.com](http://www.delroyd.com)

**Nuttall Gear**  
[www.nuttallgear.com](http://www.nuttallgear.com)

### Engine Braking Systems

**Jacobs Vehicle Systems**  
[www.jacobsvehiclesystems.com](http://www.jacobsvehiclesystems.com)

### Precision Motors & Automation

**Kollmorgen**  
[www.kollmorgen.com](http://www.kollmorgen.com)

### Miniature Motors

**Portescap**  
[www.portescap.com](http://www.portescap.com)

### Overrunning Clutches

**Formsprag Clutch**  
[www.formsprag.com](http://www.formsprag.com)

**Marland Clutch**  
[www.marland.com](http://www.marland.com)

**Stieber**  
[www.stieberclutch.com](http://www.stieberclutch.com)

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