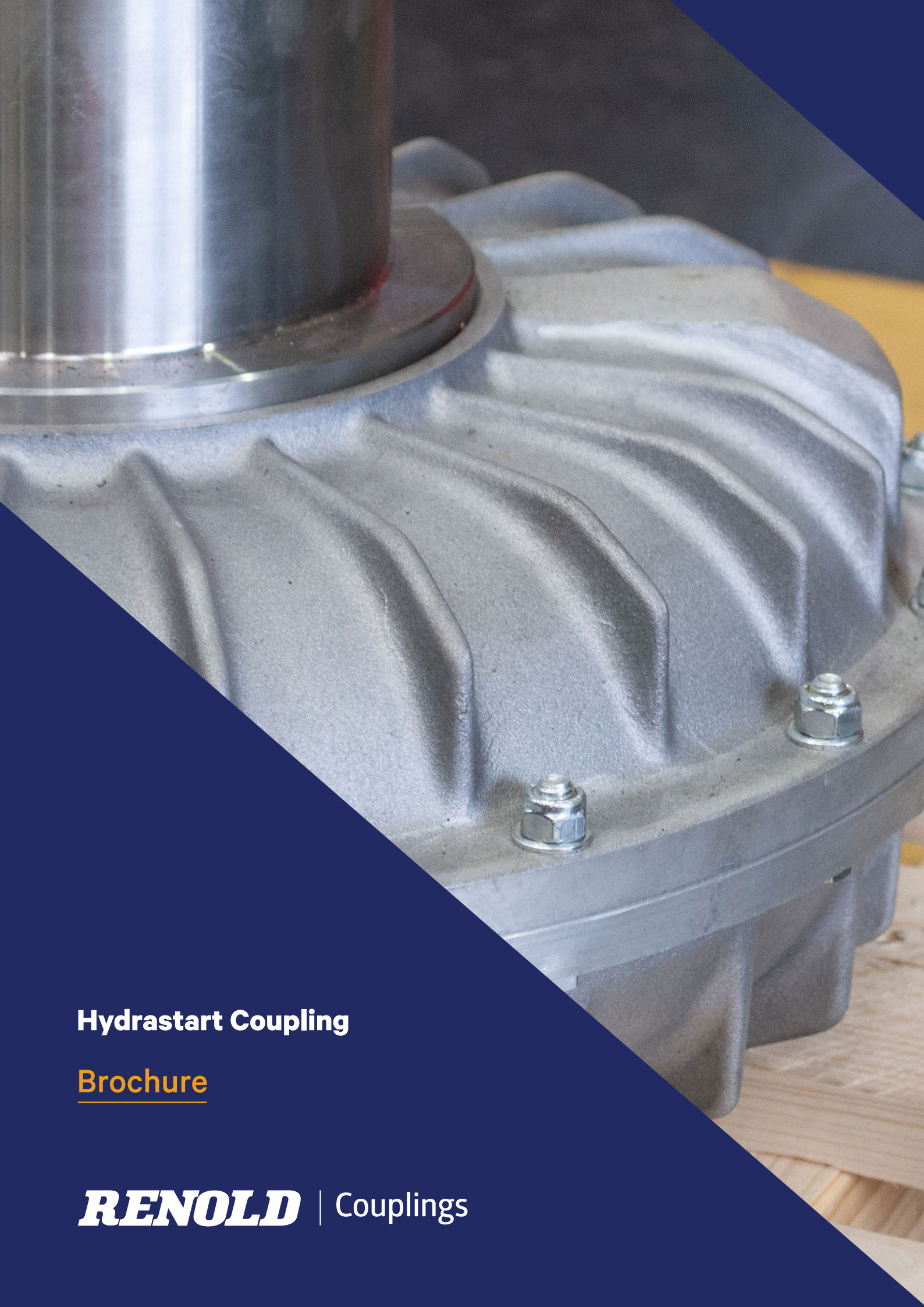
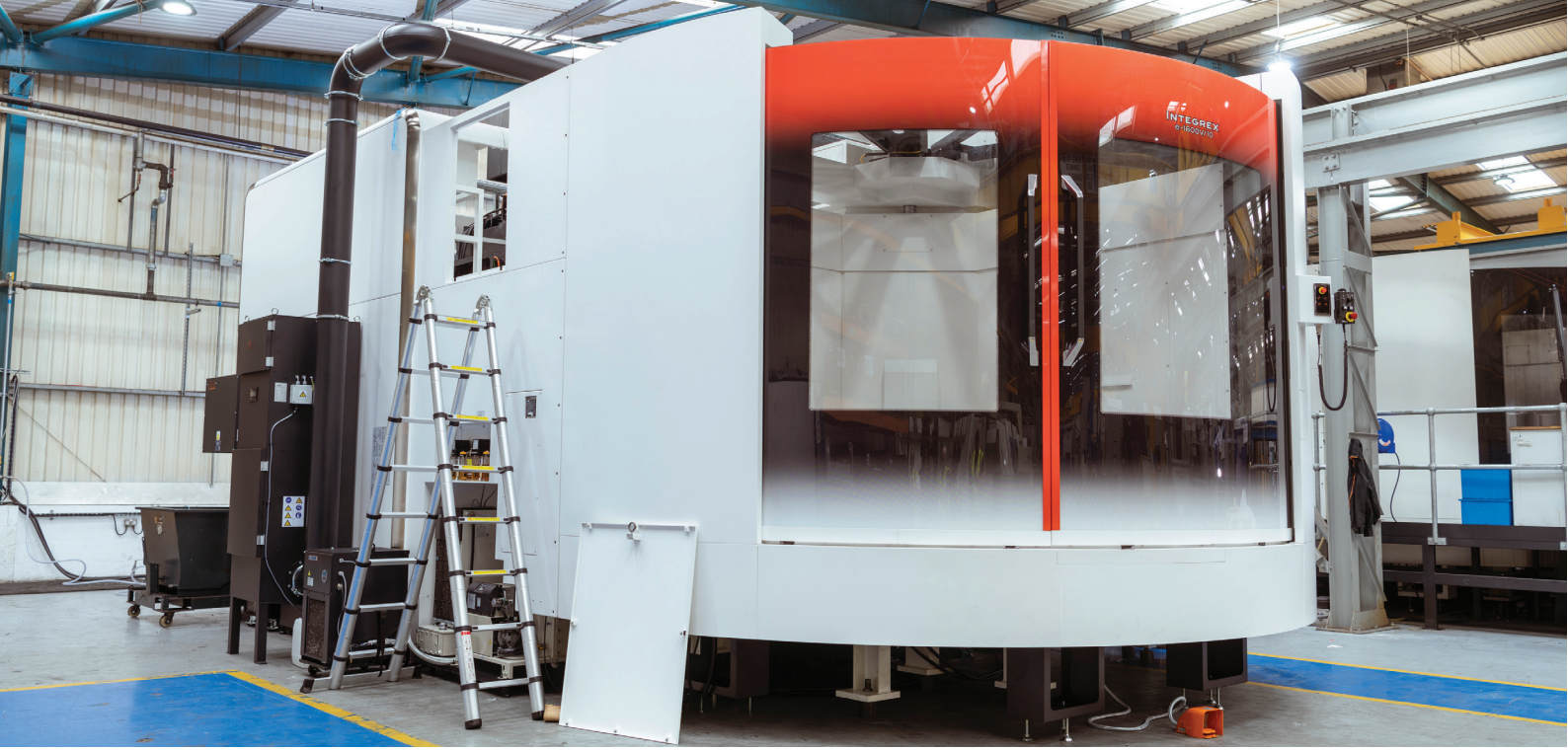


# Hydrastart Coupling

## Brochure

RENOLD | Couplings

# Contents




# Innovation Everyday

**Renold have been driving industry forward through innovation since 1879. Renold Couplings drives industry the world over, from marine, cranes and hoists to manufacture, mass transportation and the pulp and paper industry. Our couplings connect machines to machines through stock solutions and bespoke-crafted connections, all manufactured in our high-tech engineering factories.**

## Engineering capability

A team of in-house design engineers work to continuously improve the existing product range, introduce new products and deliver innovative new solutions to our customers challenges.

## British manufacturer

Since 1946 Renold Couplings have manufactured a full range of couplings and clutches.

Based in Cardiff, UK, we control the full design and manufacture process, bringing class leading quality and complete customer peace of mind.

## Worldwide support

With manufacturing facilities in 4 continents and support offices in over 30 countries Renold Couplings can offer service that understands the requirements and challenges of your particular market.

## Availability

Renold Couplings holds significant stock of standard items and component parts both in our UK facility and with our partners around the world.

Controlling the full manufacturing process, Renold Couplings can deliver responsive lead times for manufactured parts.

# Hydrastart

**A fluid coupling suitable for soft starting high inertia machinery with reduced current demand, controlled acceleration and torque with motor overload protection.**

## Coupling capacity

- Maximum power at 1800rpm: 600kW
- Maximum torque: 3180Nm

## Construction details

- Hydrastarts couplings are constructed from LM23 aluminium and EN8 steel
- All Hydrastarts use Viton O-rings and seals
- 7 different choices of recommended oil

## Standard range comprises

- Shaft to shaft
- Shaft to brake drum
- Shaft to brake disk
- Shaft to vee pulley
- Drop-in Hydrastart

## Applications

- Pumps
- Fans
- Blowers
- Material handling
- Servo motor drives
- Machine tools
- Presses
- Cranes
- Wind turbines
- General industrial applications

## Features and benefits

- High inertia controlled torque to 700 kW
- Soft start - motor starts on low load
- Allows use of standard squirrel cage motors
- Overload protection - fusible plug safeguards equipment
- Damps torsional vibration, reducing mechanical stress - extends machine life
- Delay fill version - extends acceleration time and reduces startup torque
- Can match load and speed on multi drives
- Energy saving through reduced current demand at start-up
- Coupling and vee pulley types - design flexibility

# Keyway dimensions

### Metric (mm)

Keyways comply with BS4235: Part 1: 1972

| Shaft dia. | | Keyway | | |
|---|---|---|---|---|
| Over | Incl. | J | K | L |
| 6 | 8 | 2 | 2 | 1.0 |
| 8 | 10 | 3 | 3 | 1.4 |
| 10 | 12 | 4 | 4 | 1.8 |
| 12 | 17 | 5 | 5 | 2.3 |
| 17 | 22 | 6 | 6 | 2.8 |
| 22 | 30 | 8 | 7 | 3.3 |
| 30 | 38 | 10 | 8 | 3.3 |
| 38 | 44 | 12 | 8 | 3.3 |
| 44 | 50 | 14 | 9 | 3.8 |
| 50 | 58 | 16 | 10 | 4.3 |
| 58 | 65 | 18 | 11 | 4.4 |
| 65 | 75 | 20 | 12 | 4.9 |
| 75 | 85 | 22 | 14 | 5.4 |
| 85 | 95 | 25 | 14 | 5.4 |
| 95 | 110 | 28 | 16 | 6.4 |
| 110 | 130 | 32 | 18 | 7.4 |
| 130 | 150 | 36 | 20 | 8.4 |
| 150 | 170 | 40 | 22 | 9.4 |
| 170 | 200 | 45 | 25 | 10.4 |
| 200 | 230 | 50 | 28 | 11.4 |

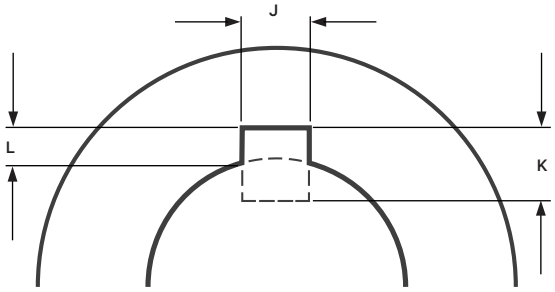
### Imperial (inches)

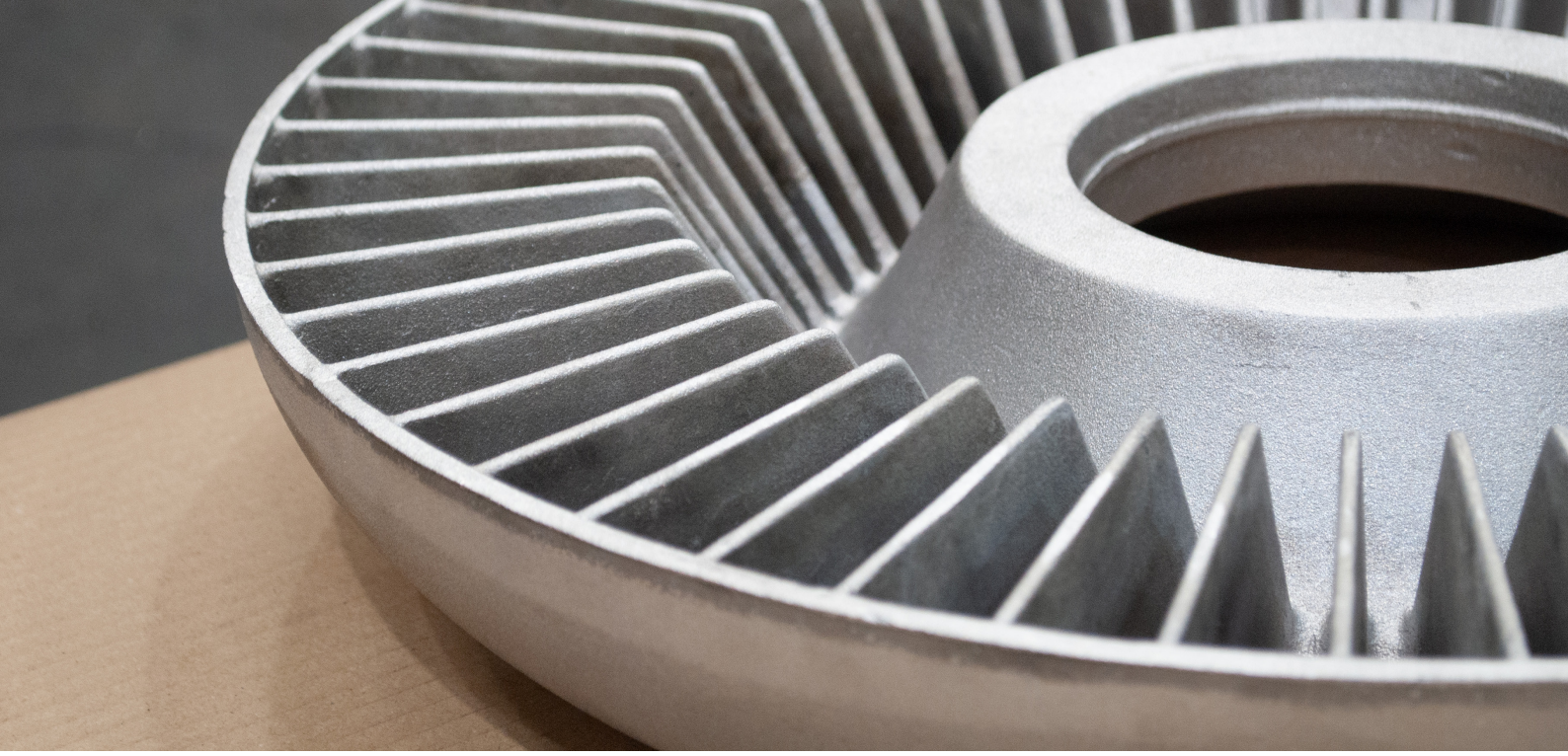
Keyways comply with BS46: Part 1: 1958

| Shaft dia. | | Keyway | | |
|---|---|---|---|---|
| Over | Incl. | J | K | L |
| 0.25 | 0.05 | 0.125 | 0.125 | 0.060 |
| 0.50 | 0.75 | 0.187 | 0.187 | 0.088 |
| 0.75 | 1.00 | 0.250 | 0.250 | 0.115 |
| 1.00 | 1.25 | 0.312 | 0.250 | 0.090 |
| 1.25 | 1.50 | 0.375 | 0.250 | 0.085 |
| 1.50 | 1.75 | 0.437 | 0.312 | 0.112 |
| 1.75 | 2.00 | 0.500 | 0.312 | 0.108 |
| 2.00 | 2.50 | 0.625 | 0.437 | 0.162 |
| 2.50 | 3.00 | 0.750 | 0.500 | 0.185 |
| 3.00 | 3.50 | 0.875 | 0.625 | 0.245 |
| 3.50 | 4.00 | 1.000 | 0.750 | 0.293 |
| 4.00 | 5.00 | 1.250 | 0.875 | 0.340 |
| 5.00 | 6.00 | 1.500 | 1.000 | 0.384 |

### Keyway dimensions

Parallel keyways are supplied unless customer states otherwise.





# Operating principles

The coupling is partially filled with hydraulic oil, with the volume of oil being used to precisely tune the acceleration of the driven equipment. The optimum oil fill is that which allows the driven equipment to smoothly accelerate from rest, therefore providing the best possible drive overload protection.

Power is supplied to the input side of the coupling by either an electric motor or diesel engine. This causes the driving impeller (A) [ fig 07 ] to be rotated at motor speed, oil is thrown outwards by centrifugal force. As the oil changes direction and speed, its kinetic energy is transferred to the driven impeller. This transfer of momentum creates torque on the driven impeller and produces rotation of the output coupling.

The low resistance of the impeller at start up allows the motor to quickly accelerate to full speed without a high torque demand. The driven load accelerates smoothly to within a small percentage of the motor speed.

This speed difference is referred to as slip and is an inherent operating principle of a fluid coupling.

Typical values of slip will vary between 2% (large power) and 6% (small power).

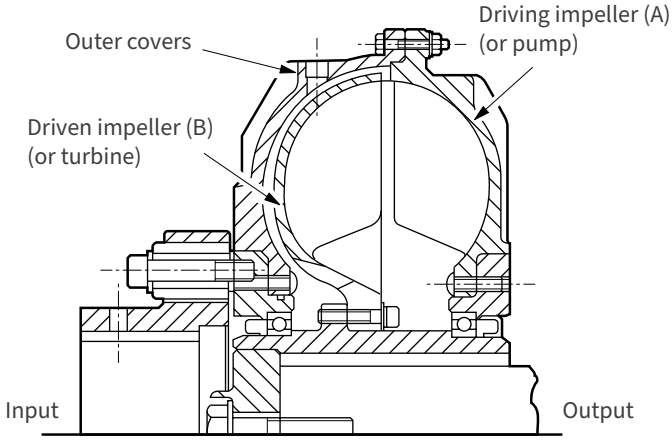
All hydraulic couplings can be driven in either directions of rotation.

The input and output positions shown are standard, but the input can be from either side of the coupling.

The standard drive arrangement allows the outer cover to be rotated whilst at rest to facilitate oil filling. However, if a brake drum or disc brake is fitted, the brake should be at the coupling output. See the standard available options page.

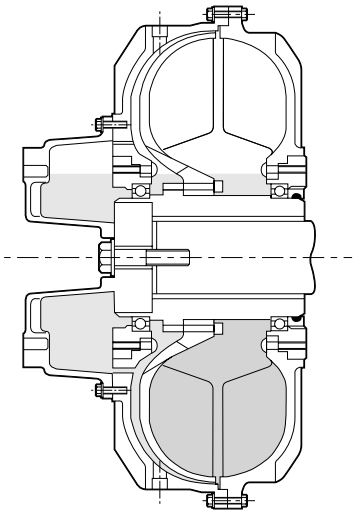
**To calculate slip %**

$$\frac{\text{(Input speed - output speed) x 100}}{\text{Input speed}}$$

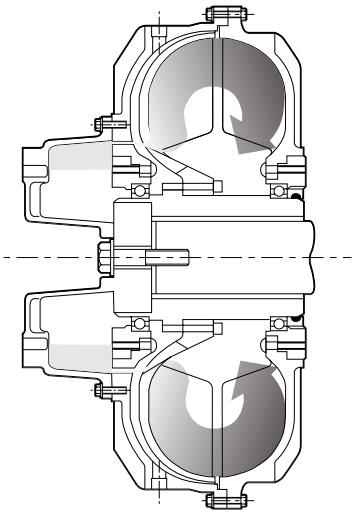



**[Fig 07]**

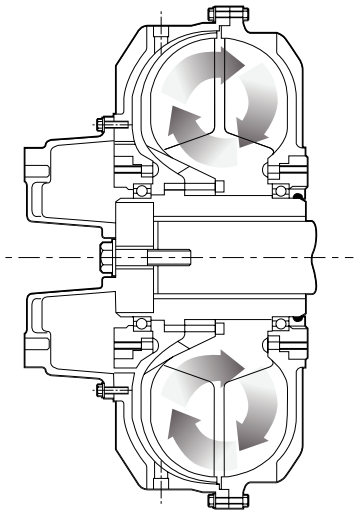
# Delayed Fill



**At rest**
With the drive at rest, oil drains from the working circuit into the delay chamber.



**Accelerating**
At start up the coupling will transmit limited torque, allowing the motor to reach rated speed quickly. Oil flows from the chamber to the working circuit proportionally to the speed.



**Running**
When the coupling achieves its rated speed, almost all of the oil is in the working circuit and the torque is transmitted at the minimum slip value.

**Hydrastart Delayed Fill Chamber (Type HS...R)**

Hydrastart (constant fill) hydraulic couplings having a maximum oil fill will limit the starting torque to approximately 200% of nominal torque. It is possible to reduce this figure by reducing the quantity of oil in the circuit.

The disadvantage of this method is that it produces increased slip and higher operating temperatures. To overcome these problems a delay fill chamber is available on sizes HS8 and above.

This chamber is a modular option and allows a calibrated oil feed into the working circuit. In this way, starting torque can be reduced whilst minimising slip under normal running.

! The outer case of the Hydrastart coupling can become hot during operation. Do not touch the coupling or a burn may result.

! Do not attempt to change the coupling oil during or soon after operation has ceased, as the oil may be hot and could cause burns.

# 'Soft' Starting

### Effect of starting on electric motors

If a machine is driven by a squirrel cage motor without the use of a Hydrastart fluid coupling, the following conditions arise [ fig 11 ].

1. Motor will pull out 250/280% full load torque (FLT).
2. Motor will consume 6 times full load amps.
3. Increase in motor temperature.

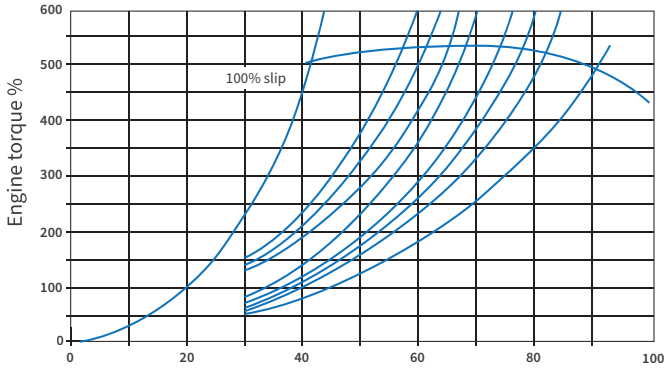
Star-delta starting reduces overheating. Starting torque in star connected winding is only 30% of FLT in delta connected winding. More complicated motors may be required, and star-delta starting is less suitable for systems requiring high starting torque.

A = Locked rotor torque

B = Stall torque 250/280%

C = Normal torque 100%

I = Amperage




[**fig 14**]

### Effect of starting of electric motors when fitted with HydraStart Couplings

When a drive includes a HydraStart coupling the motor starts on low load, with only an instantaneous current peak at switch on [ fig 12 ]. At start up all the motor torque is available to accelerate the motor rotor and coupling impeller (pump). The driven impeller (turbine) increases speed smoothly from zero rpm until the 100% slip curve intersects the motor torque curve at approximately 85% motor speed [ fig 13 ]. When the torque developed by the HydraStart coupling matches the resisting torque of the driven machine, acceleration of the load commences and continues up to running speed which will be between 94% and 98% of the driving speed depending on the coupling size.

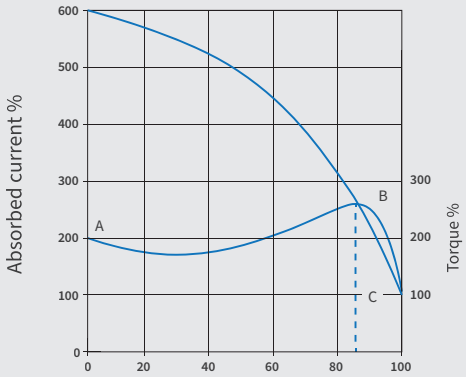
### HydraStart couplings fitted on diesel engines

HydraStart fluid couplings can be used with all types of industrial machinery driven by internal combustion engines. [ fig 14 ] shows typical engine and coupling performance curves.

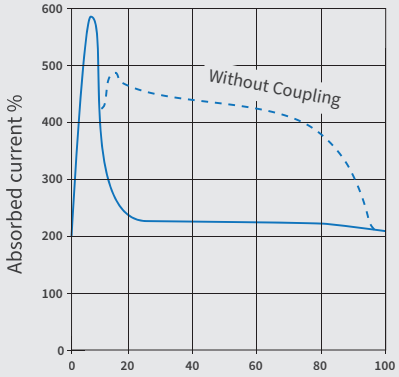
The horizontal curve represents the engine's torque curve whilst the vertical shows the torque capacity of the coupling for different slip values and speeds. As load on the driven shaft increases it demands torque, causing the coupling to slip at higher level.

If still greater loads are demanded then the coupling will eventually slip at 100%. Note this does not happen until the engine has developed peak torque.

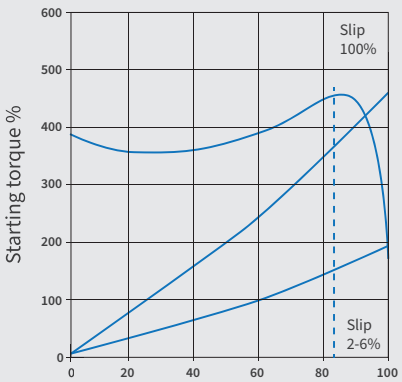
By using a fluid coupling, it permits an engine to develop maximum torque without stalling under load and promotes rapid acceleration to normal load speed.




[**fig 11**]

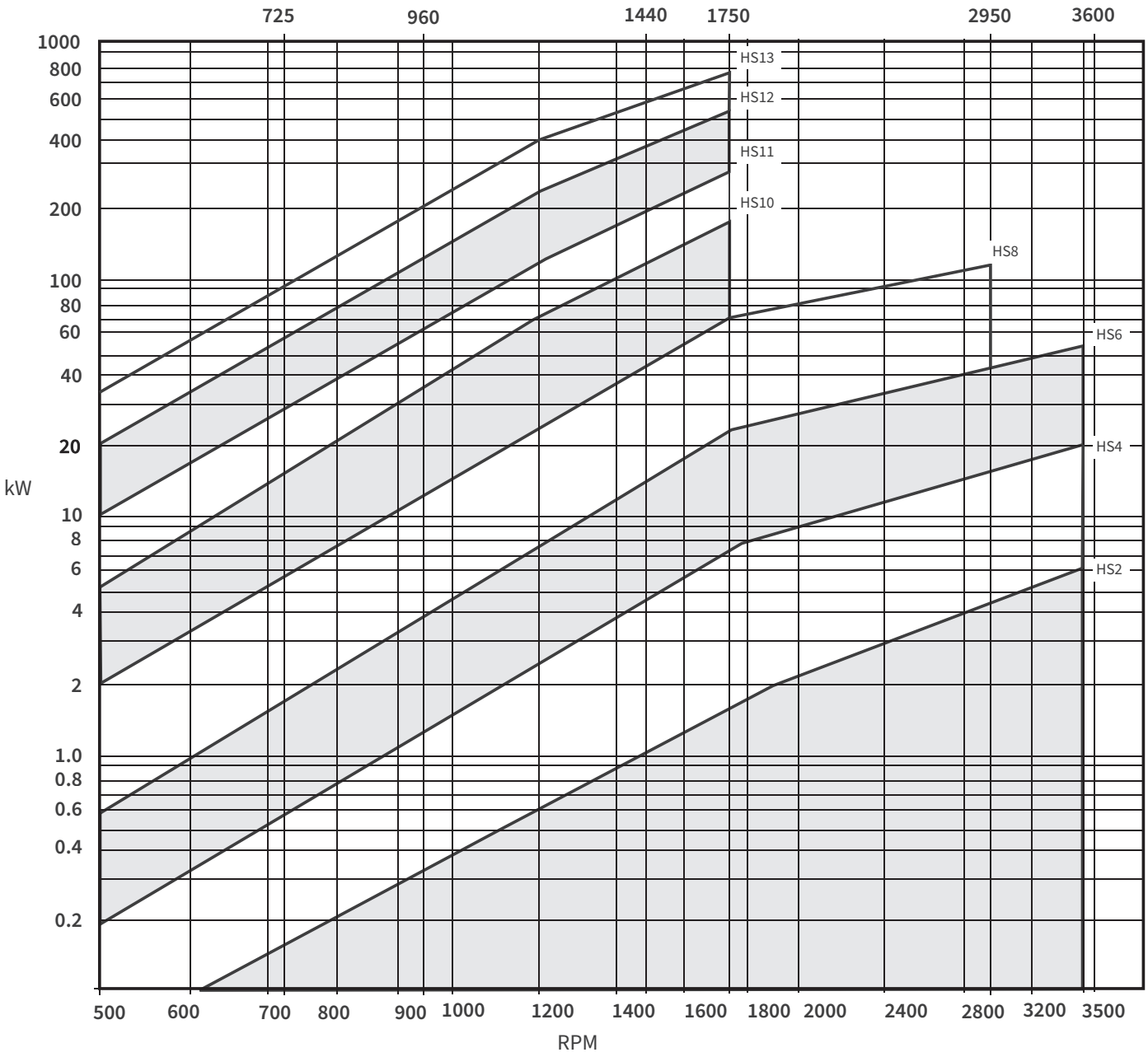



[**fig 12**]




[**fig 13**]

# Hydrastart Selection Chart




Larger coupling sizes are available up to 2000kW at 1400 RPM

This chart may be used for the selection of coupling size. If your selection falls on a dividing line, always select the next largest size and use reduced oil fill.

Hydrastart couplings can be used for up to five equi-spaced starts per hour.

Applications requiring more than five starts an hour should always be referred to Renold.

**NOTE:** Hydraulic couplings will not compensate for an undersized electric motor.

! Rotating equipment must be provided with a suitable guard before operating or injury may result.

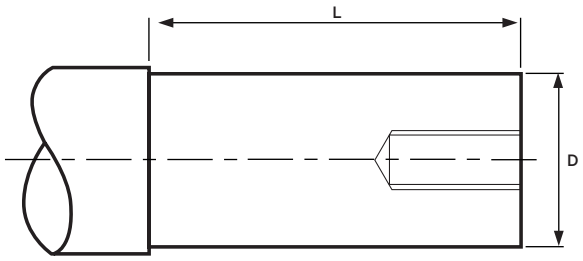
! It is the responsibility of the system designer to ensure that the application of the coupling does not endanger the other constituent components in the system. Service factors given are an initial selection guide.

# Coupling Rating Tables

### Maximum rating table

| Coupling ref | Motor speed/kW | | | | |
|---|---|---|---|---|---|
| | 750 | 1000 | 1200 | 1500 | 1800 |
| HS2 | 0.13 | 0.37 | 0.56 | 1.1 | 1.7 |
| HS4 | 0.56 | 1.34 | 2.4 | 4.5 | 7.4 |
| HS6 | 1.7 | 4.0 | 7.5 | 15 | 24 |
| HS8 | 5.5 | 13 | 23 | 45 | 65 |
| HS10 | 15 | 37 | 65 | 110 | 155 |
| HS11 | 27 | 63 | 116 | 200 | 273 |
| HS12 | 54 | 125 | 234 | 400 | 502 |
| HS13 | 97 | 200 | 350 | 587 | 694 |

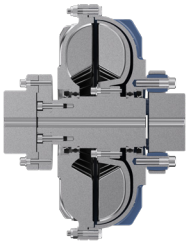
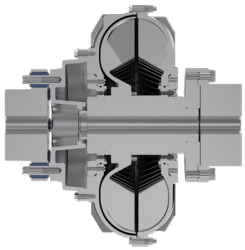
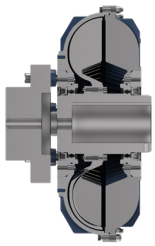
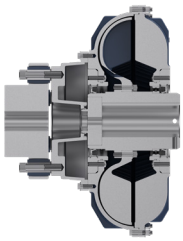
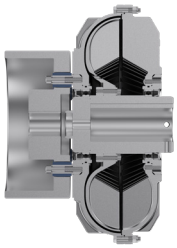
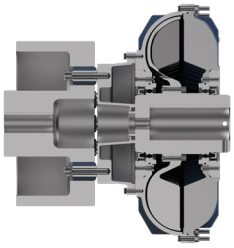
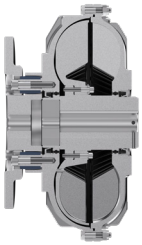
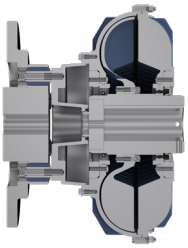
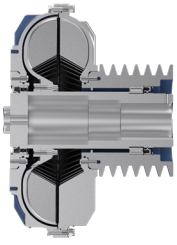
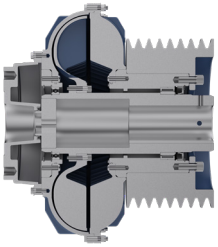
### Motor shaft details




For selection requiring larger powers contact Renold.

| Motor | | | 750 rpm | | | 1000 rpm | | | 1500 rpm | | | 3000 rpm | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Frame size | Shaft details | | Power | | Hydrastart size | Power | | Hydrastart size | Power | | Hydrastart size | Power | | Hydrastart size |
| | D (mm) | L (mm) | kW | HP | | kW | HP | | kW | HP | | kW | HP | |
| 80 | 19 | 40 | | | | 0.25 | 0.33 | HS2 | | | | | | |
| 80 | 19 | 40 | | | | 0.37 | 0.5 | | 0.55 | 0.75 | HS2 | 0.75 | 1 | HS2 |
| 80 | 19 | 40 | | | | 0.55 | 0.75 | | 0.75 | 1 | | 1.1 | 1.5 | |
| 90S | 24 | 50 | | | | 0.75 | 1 | HS4 | 1.1 | 1.5 | | 1.5 | 2 | |
| 90L | 24 | 90 | | | | 1.1 | 1.5 | | 1.5 | 2 | | 2.2 | 3 | |
| 100L | 28 | 60 | 0.75 | 1 | | 1.5 | 2 | | 2.2 | 3 | HS4 | 3 | 4 | |
| 100L | 28 | 60 | 1.1 | 1.5 | HS6 | | | | 3 | 4 | | | | |
| 112M | 28 | 60 | 1.5 | 2 | | 2.2 | 3 | HS6 | 4 | 5.5 | | 4 | 5.5 | |
| 132S | 38 | 80 | 2.2 | 3 | | 3 | 4 | | 5.5 | 7.5 | | 5.5 | 7.5 | |
| 132S | 38 | 80 | | | | 4 | 5.5 | | | | | 7.5 | 10 | HS4 |
| 132M | 38 | 80 | 3 | 4 | HS8 | 5.5 | 7.5 | | 7.5 | 10 | HS6 | | | |
| 132M | 38 | 80 | | | | 7.5 | 10 | HS8 | | | | 11 | 15 | |
| 160M | 42 | 110 | 4 | 5.5 | | 11 | 15 | | 11 | 15 | | 15 | 20 | |
| 160M | 42 | 110 | 5.5 | 7.5 | | | | | 15 | 20 | | 18.5 | 25 | |
| 160L | 42 | 110 | 7.5 | 10 | | 15 | 20 | | 18.5 | 25 | | 22 | 30 | |
| 180M | 48 | 110 | | | | 18.5 | 25 | | 22 | 30 | | | | HS6 |
| 180L | 48 | 110 | 11 | 15 | | 22 | 30 | | 30 | 40 | HS8 | 30 | 40 | |
| 200L | 65 | 110 | 15 | 20 | | | | | 37 | 50 | | 37 | 50 | |
| 200L | 55 | 110 | | | | 30 | 40 | | | | | | | |
| 225S | 60 | 140 | 18.5 | 25 | HS10 | 37 | 50 | HS10 | 45 | 60 | | 45 | 60 | |
| 225M | 65 | 110 | | | | | | | | | | | | |
| 225M | 60 | 140 | 22 | 30 | | 45 | 60 | | 55 | 75 | | 55 | 75 | |
| 250S | 60 | 140 | | | | | | | | | | | | |
| 250S | 70 | 140 | 30 | 40 | | 55 | 75 | | 75 | 100 | HS10 | 75 | 100 | HS8 |
| 250M | 60 | 140 | | | | | | HS11 | | | | | | |
| 250M | 70 | 140 | 37 | 50 | HS12 | 75 | 100 | | 90 | 125 | | 90 | 125 | |
| 280S | 65 | 140 | | | | 90 | 125 | | | | | | | |
| 280S | 80 | 170 | 45 | 60 | | 110 | 150 | | 110 | 150 | | 110 | 150 | |
| 280M | 65 | 140 | | | | | | | 132 | 175 | | | | |
| 280M | 80 | 170 | 55 | 75 | | 132 | 175 | HS12 | 150 | 200 | HS11 | | | |
| 315S | 85 | 170 | 75 | 100 | | 150 | 200 | | 185 | 250 | | | | |
| 315M | 85 | 170 | 90 | 125 | HS13 | | | | 200 | 270 | | | | |
| 315L | 85 | 170 | | | | 185 | 250 | HS13 | 225 | 300 | | | | |
| 315L | 85 | 170 | | | | 200 | 270 | | 250 | 335 | | | | |
| 315L | 85 | 170 | | | | | | | 280 | 375 | | | | |
| 355S | 100 | 210 | | | | | | | 315 | 420 | HS12 | | | |
| 355S | 100 | 210 | | | | | | | 355 | 475 | | | | |
| 355M | 100 | 210 | | | | | | | 375 | 503 | | | | |
| 355L | 100 | 210 | | | | | | | 400 | 536 | | | | |
| 355L | 100 | 210 | | | | | | | | | | | | |
| 355L | 100 | 210 | | | | | | | | | | | | |

# Standard available options

| Non delay fill | Description | Delay fill |
|---|---|---|
| **Type: HS.. ND**  | **Drop-in**<br>Coupling can be "dropped in" radially without the need to move machinery. Shaft to shaft fitment.<br>**Refer to page Hydrastart Drop-in - dimensions (mm)** | **Type: HS.. SD**  |
| **Type: HS..PF**  | **Legacy coupling**<br>Sleeve bored to suit motor shaft and incorporating Pinflex output coupling. Capable of accepting some misalignment. Flexible buffers can be replaced in situ.<br>**Refer to page Pinflex coupling - dimensions (mm)** | **Type: HS..RPF**  |
| **Type: HS..B**  | **Brake drum options**<br>Basic Pinflex coupling with the addition of a brake drum, metric or inch sizes. | **Type: HS..RB**  |
| **Type: HS..K**  | **Brake disc options**<br>Basic Pinflex coupling with the addition of a brake disc, metric or inch sizes. | **Type: HS..RK**  |
| **Type: HS..VP**  | **Vee Pulley Mounting**<br>Sleeve bored to suit motor shaft. Pulley is attached using external bolts and may easily be replaced.<br>**Refer to page Hydrastart Pulley - dimensions (mm)** | **Type: HS..RVP**  |

Type HSPF, HSB, HSK and HSVP may be used for vertical applications.
We can also supply different variants, Please contact Renold for details.

# Overload protection

When a hydraulic coupling experiences overload there is a correspondingly high slip value accompanied by a rise in the oil temperature. To prevent damage to the drive there are three options available.

### 1. Fusible plug

This is fitted as standard on all HydraStart couplings sizes 4 and above. The standard plug is set to fuse at 138°C. An alternative option available allows fusing at 183°C. Because oil is discharged when the plug fuses it is advisable to correctly guard couplings using this type of device.

### 2. Thermal trigger

Fitted as an option on HydraStart couplings sizes 6 and above, this device prevents oil being discharged from the coupling at overload. As with the fusible plug, two melt temperatures are offered. When melt point is reached a pin is released which engages with a limit switch. The signal from this switch can operate an alarm or switch off the electric motor to protect the drive. After the cause of the overload has been removed the drive can be restarted after replacing the thermal trigger.

### 3. Non-contact sensor

Non-contact speed and heat sensors can be supplied which shut down the drive in the event of overload. Please contact Renold for more information.

### HydraStart thermal trigger

| Size | A | L | Li |
|---|---|---|---|
| HS6 | 345 | 93.7 | 21.5 |
| HS8 | 422 | 123.2 | 20.0 |
| HS10 | 511 | 146.1 | 16.0 |
| HS11 | 580 | 144.5 | 10.5 |
| HS12 | 669 | 173.3 | 10.5 |

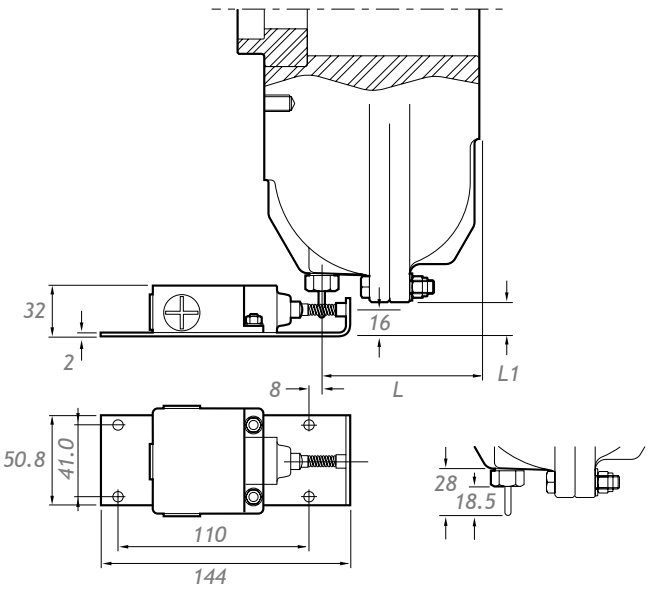
### Operating principles

This device will trigger the limit switch if the oil temperature reaches a predetermined level without loss of oil from the coupling. Fusible trigger plug 117°C alternatively 138°C.

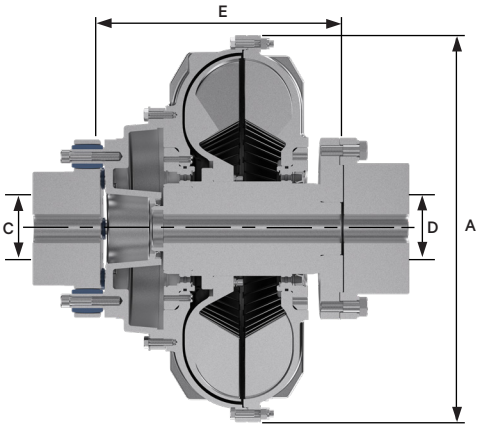
### Electrical characteristics

2-Pole 1N/C + 1N/O, conforms to IEC 529 IP 66, contact type XCK rating 500V AC-15.

3-20mm ISO Cable Entries.



# Hydrastart Drop-in – dimensions (mm)




### HS - TRC dimensions in mm

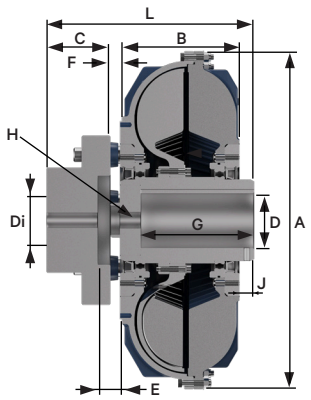
| Size | A | C | D | E | Interchanges with Fluid drive FCU |
|---|---|---|---|---|---|
| HS2 | 279 | 42 | 35 | 159 | 7 |
| HS4 | 286 | 42 | 35 | 165 | 8 |
| HS4.5 | 286 | 48 | 48 | 194 | 9.25 |
| HS6 | 345 | 48 | 48 | 210 | 10.5 |
| HS6.5 | 345 | 60 | 60 | 232 | 11.5 |
| HS8 | 422 | 60 | 60 | 262 | 12.75 |
| HS8.5 | 422 | 80 | 70 | 287 | 14.5 |
| HS10 | 511 | 80 | 70 | 335 | 16.25 |
| HS10.5 | 511 | 85 | 83 | 354 | 17.75 |
| HS11 | 580 | 85 | 83 | 390 | 20 |
| HS12 | 669 | 110 | 100 | 457 | 23 |
| HS13 | 751 | 110 | 100 | 492 | 26 |

## Hydrastart interchange fluid coupling

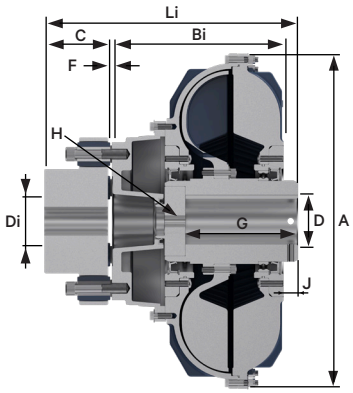
- Quick and easy installation – reducing time and cost of install and maintenance with no need to move machinery.
- Quick lead time – excellent stock holdings at Renold and with our worldwide distribution network.

# Hydrastart Pinflex coupling – dimensions (mm)

### HS.. PF Standard type size 2-13




### HS.. RPF Delay fill type size 8-13

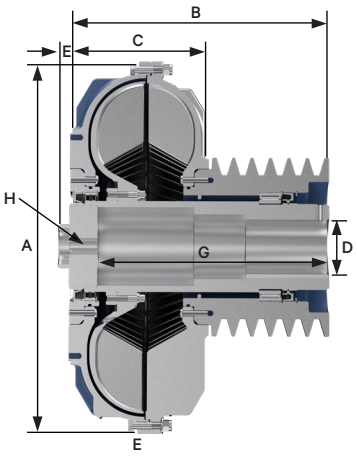



| Size | A | B | Bi | C | D max | Di max | E | F | G* | H | J | L | Li | Pinflex Cplg Size | Weight kgs | WR² kgm² |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HS2 | 229 | 90 | - | 44 | 29 | 50 | 13 | 4 | 80 | 0.625" 11 UNC | 8 | 146 | - | 1 | 6.7 | 0.02 |
| HS4 | 286 | 107 | - | 44 | 42 | 50 | 13 | 4 | 95 | 0.625" 11 UNC | 7 | 162 | - | 1 | 10.9 | 0.06 |
| HS6 | 345 | 130 | - | 50 | 52 | 55 | 16 | 5 | 114 | 0.75" 10 UNC | 10 | 195 | - | 2 | 20.8 | 0.16 |
| HS8 | 422 | 161 | 238 | 75 | 75 | 80 | 20 | 6 | 137 | 1.00" 8 UNC | 19 | 261 | 338 | 4 | 41.2<br>43.9 | 0.46<br>0.49 |
| HS10 | 511 | 191 | 268 | 89 | 85 | 110 | 20 | 6 | 178 | 1.00" 8 UNC | 25 | 311 | 388 | 5 | 65.2<br>69.7 | 1.05<br>1.11 |
| HS11 | 580 | 205 | 296 | 110 | 102 | 130 | 20 | 7 | 195 | 1.00" 8 UNC | 25 | 347 | 438 | 6 | 107.4<br>113.6 | 2.17<br>2.26 |
| HS12 | 669 | 231 | 339 | 110 | 115 | 130 | 23 | 7 | 211 | 1.25" 7 UNC | 25 | 374 | 482 | 6 | 131.7<br>138.9 | 3.67<br>3.78 |
| HS13 | 751 | 292 | 402 | 130 | 127 | 150 | 23 | 7 | 267 | 1.25" 7 UNC | 25 | 454 | 564 | 7 | 199<br>207 | 6.80<br>7.07 |

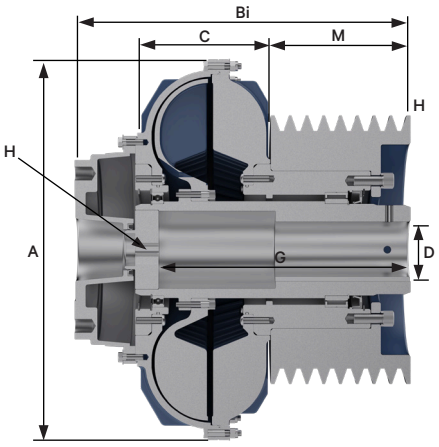
Figures in blue type relate to delay fill coupling only (sizes 8 and above).
*It may be necessary to use a spacer (not supplied by Renold) if shaft length is less than dimension ‘G’.

# Hydrastart pulley – dimensions (mm)

### HS.. VP Standard type size 2-12



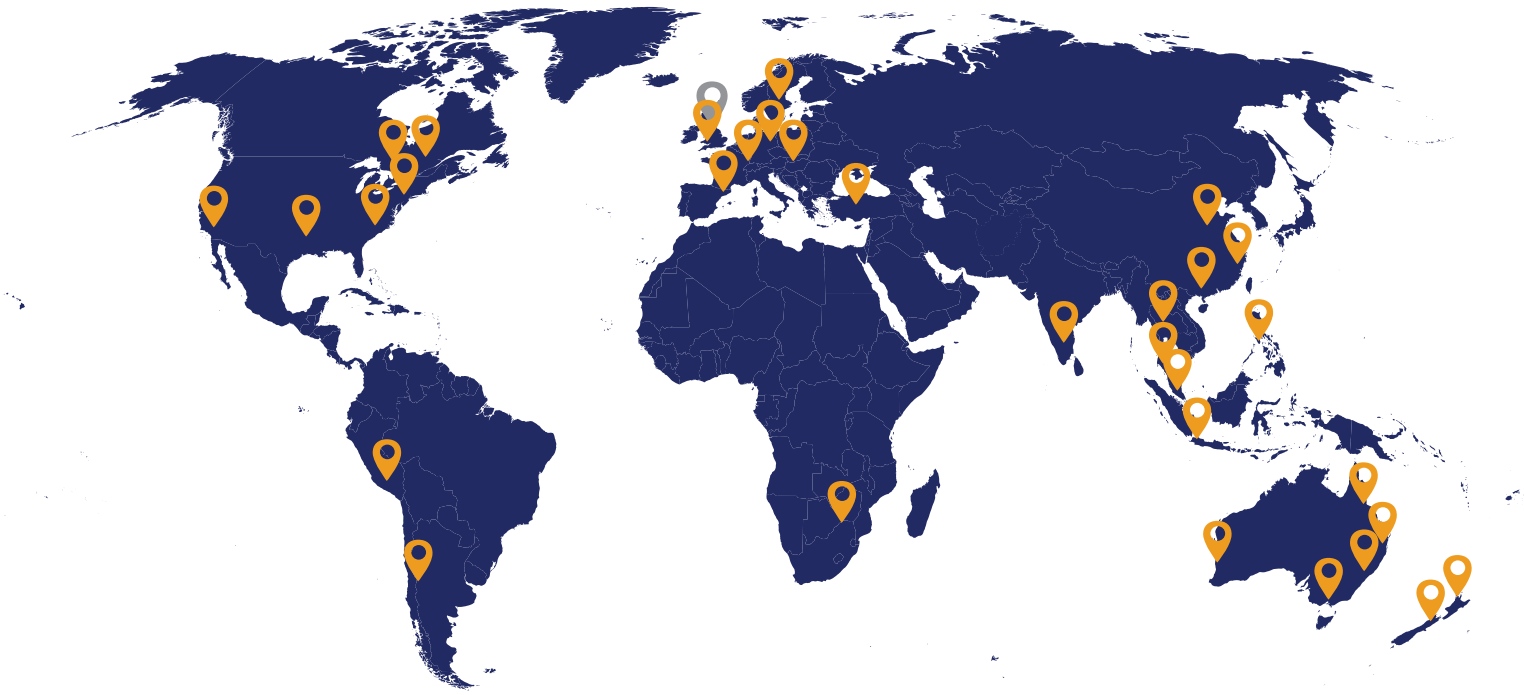

### HS.. RVP Delay fill type size 8-12




| Size | A | B | Bi | C | D max | E | G* | H | M | Weight kgs | WR² kgm² | Hydrastart size | Groove profile | Max no grooves | PCD min |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | HS2VP | SPZ | 3 | 106 |
| | | | | | | | | 0.625" | | | | | SPA | 2 | 110 |
| HS2 | 229 | 141 | - | 90 | 27 | 13 | 123 | 11 | UNC | 51 | 4.40 | 0.02 | SPB | 1 | 116 |
| | | | | | | | | | | | | HS4VP | SPZ | 5 | 140 |
| | | | | | | | | 0.625" | | | | | SPA | 4 | 144 |
| HS4 | 286 | 173 | - | 107 | 38 | 13 | 154 | 11 | UNC | 66 | 9.30 | 0.05 | SPB | 3 | 150 |
| | | | | | | | | | | | | HS6VP | SPZ | 6 | 162 |
| | | | | | | | | | | | | | SPA | 5 | 166 |
| | | | | | | | | 0.75" | | | | | SPB | 4 | 172 |
| HS6 | 345 | 220 | - | 130 | 49 | 16 | 195 | 10 | UNC | 90 | 15.89 | 0.13 | SPC | 3 | 182 |
| | | | | | | | | | | | | HS8VP | SPZ | 11 | 188 |
| | | | | | | | | | | | | | SPA | 9 | 192 |
| | | | | | | | | 1.00" | | | 41.40 | 0.45 | SPB | 7 | 198 |
| HS8 | 422 | 310 | 387 | 161 | 75 | 20 | 267 | 8 | UNC | 149 | 44.10 | 0.48 | SPC | 5 | 208 |
| | | | | | | | | | | | | HS10VP | SPZ | 13 | 245 |
| | | | | | | | | | | | | | SPA | 10 | 250 |
| | | | | | | | | 1.00" | | | 66.70 | 1.06 | SPB | 8 | 255 |
| HS10 | 511 | 357 | 434 | 191 | 80 | 20 | 319 | 8 | UNC | 166 | 71.20 | 1.12 | SPC | 6 | 265 |
| | | | | | | | | | | | | HS11VP | SPZ | 17 | 285 |
| | | | | | | | | | | | | | SPA | 13 | 289 |
| | | | | | | | | 1.00" | | | 104.10 | 2.12 | SPB | 10 | 295 |
| HS11 | 580 | 418 | 509 | 205 | 95 | 20 | 382 | 8 | UNC | 213 | 110.30 | 2.21 | SPC | 8 | 305 |
| | | | | | | | | | | | | HS12VP | SPZ | 17 | 330 |
| | | | | | | | | | | | | | SPA | 13 | 334 |
| | | | | | | | | | 1.25" | 1 | 37.20 | 3.71 | SPB | 10 | 340 |
| HS12 | 669 | 448 | 556 | 231 | 110 | 23 | 403 | 7 | UNC | 217 | 144.40 | 3.83 | SPC | 8 | 350 |

Figures in blue type relate to delay fill coupling only (sizes 8 and above).
*It may be necessary to use a spacer (not supplied by Renold) if the shaft length is than dimension 'G'.
WR² value does not include the pulley.
Pulley details shown are limitations. For alternative options contact Renold.

# Global services



**Head office** **Renold locations**

### Internal support
Sales team embedded in the manufacturing site with unrivalled product knowledge

### Worldwide Manufacture
Renold can utilise its fully owned factories across the world to ensure quality conrolled, cost competitive product

### Manufacturing facility
Designed and manufactured in house by Renold; giving ultimate control on our solutions

### History and Longevity
Manufacturing in the UK for over 100 years and commitment in our facilities for the long term, we are here to stay

### Excellent Communication
From an accessible sales team, weekly order updates and a global sales network we make it easy to communicate

### Large Stock Holding
Renold holds a large stock of Industrial couplings in the UK and with our worldwide distribution network

# Get in touch

**For your local Renold sales and service location**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CF3 2EU


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