

*The leading manufacturer of hand wound
mechanical starter motors for diesel engines*





Easy hand starting with Kineteco Spring Starters

Kineteco spring starters are used all over the world in many applications including ships' lifeboats, irrigation pumps, black start generators, mining vehicles and fire pumps to name but a few.



Kineteco is the leading manufacturer of hand wound, mechanical spring starters, which replace the electric starter motor and allow a diesel engine to be started easily and safely by hand, without a battery or alternator.

- Efficient
- Reliable
- Versatile
- Convenient
- Safe

Kineteco is dedicated to designing and producing product of the highest quality, which has ensured an enviable reputation for reliability, even though our starters are used in the toughest environments.

Kineteco delivers the highest quality professional service and support worldwide, with a growing network of distributors trained to handle all your technical and purchasing requirements.

Kineteco spring starters are fully assembled by our production engineers at our UK premises, from components sourced 100% in the UK.



How Spring Starting Works

Kineteco spring starters require no external power systems unlike their electric, air (pneumatic) or hydraulic counterpart systems. They are simple, compact, dependable and in many cases the preferred choice for back-up starting.

The Kineteco range of spring starters are a direct replacement for the existing electric (or other) starter system, making them easy and simple to fit.

Using a Kineteco spring starter is safe and easy. The user winds the starter using the supplied cranking handle. The winding ratchet means the user can wind as fast or as slowly as they wish. Once wound, the spring starter can be tripped as and when the user is ready and chooses to do so.

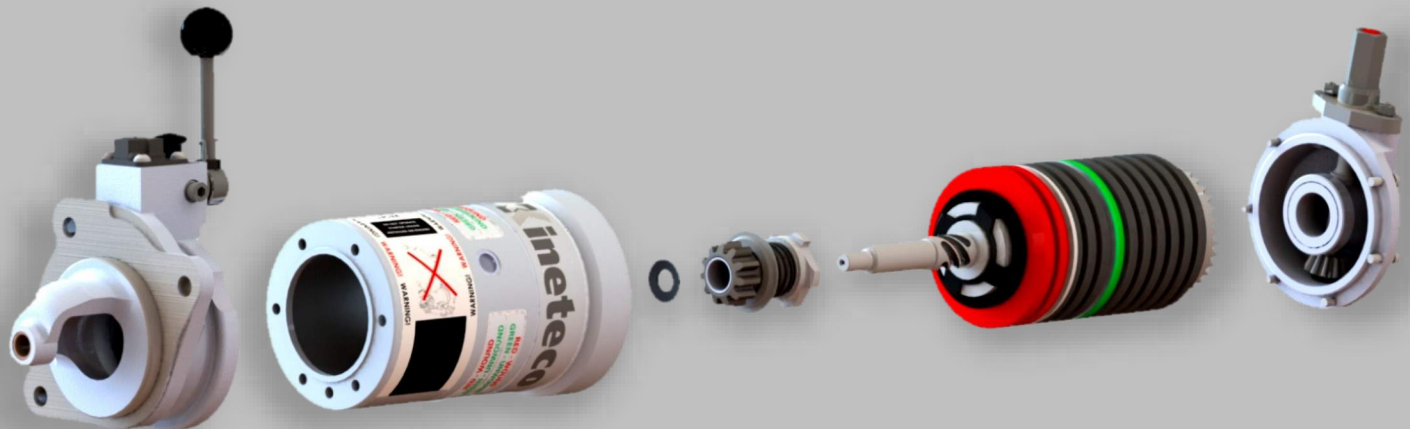
There is none of the risk associated with electrical, pneumatic or hydraulic energy sources.

Kineteco spring starters convert stored potential energy, in the form of a wound up spring, into rotational kinetic energy used to turn over and start the engine. The spring is wound by simple hand cranking. The energy is released by pushing a lever on the starter.

There are two types of spring used in Kineteco spring starters:

Disc Springs (also referred to as 'Belleville Washers')

Conically shaped steel washers which are compressed by means of a ball screw

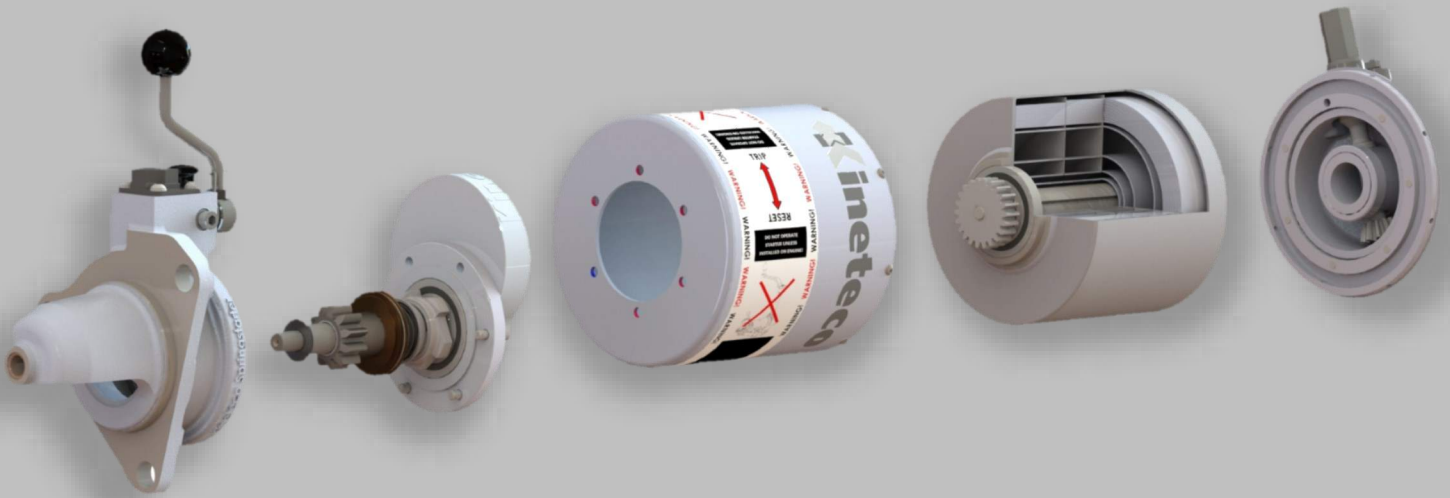


Disc spring benefits for spring starting are:

- High output torque
- Robust

Power Springs (also referred to as 'clock' springs)

Coiled flat steel sheet which is wound up



Power spring benefits for spring starting are:

- High number of output revolutions
- Compact

In addition to differing spring technologies, Kineteco have pioneered the use of gearbox technology in spring starting.

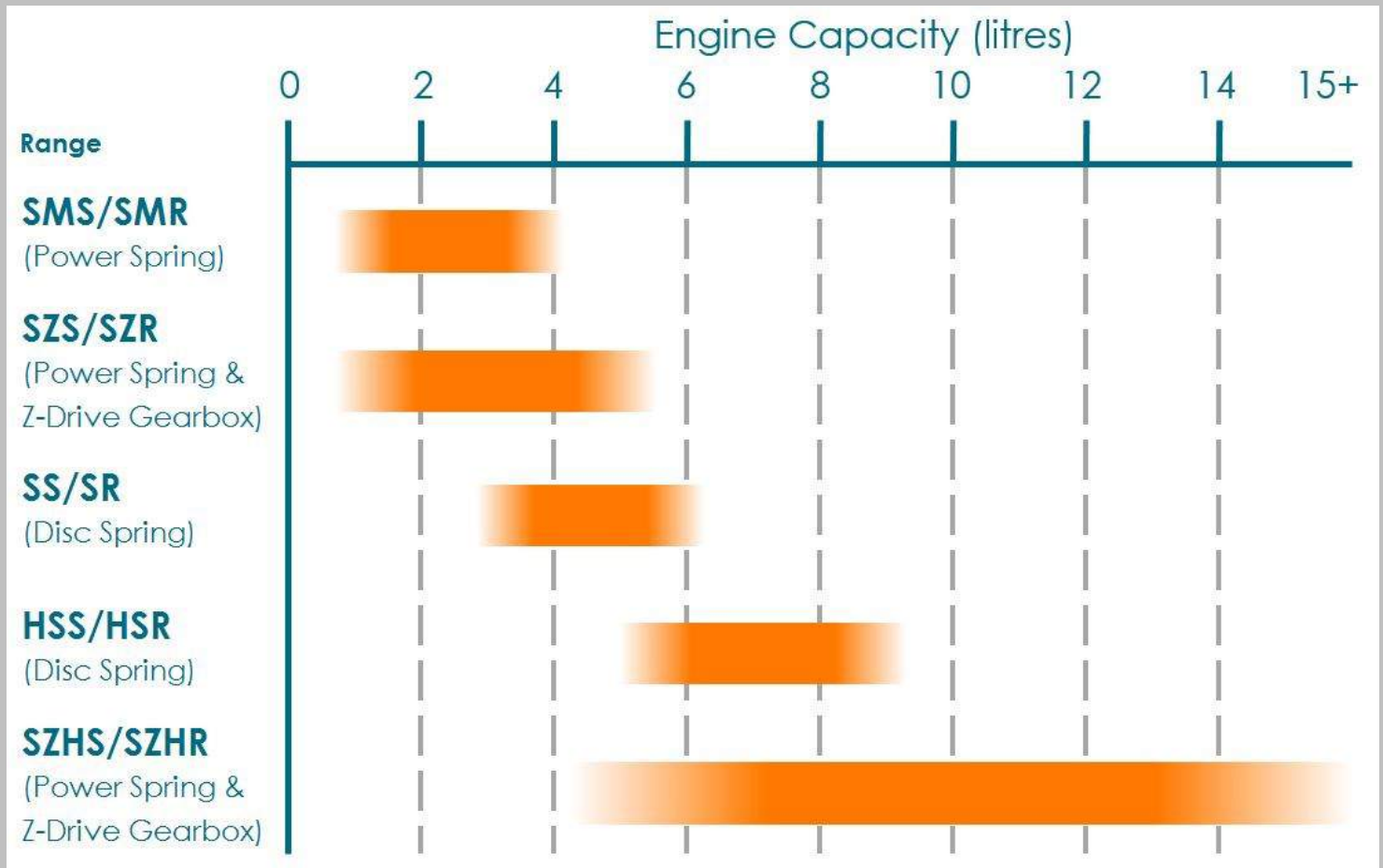
Using a Z-drive gearbox on the SZS/SZR and SZHS/SZHR models not only allows the energy delivery from the spring to be tuned to the engine starting application but also allows the body of the spring starter to be moved away from the engine and create more clearance.

Product Range — Which Starter?

Kineteco spring starters are suitable for a large range of diesel engines and can start small 400cc single cylinders all the way up to 15L 6 cylinders.

The chart below can be used to identify which spring starter is suitable for your application. This chart is to be used as a rough guide, as starting performance varies between engine makes and models and is dependent on climate and load.

Check the website to see if Kineteco already fit an engine. For engines not listed, the technical team will be able to assist with finding the correct spring starter.



Starter Models Overview

SS/SR

The original spring starter with standard duty disc springs
Rugged, reliable with a guaranteed 5,000 start lifecycle
Versatile for all environments
Available with all additional features



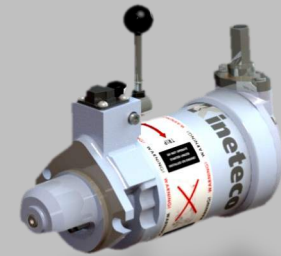
HSS/HSR

The original spring starter with heavy duty disc springs
Rugged, reliable with a guaranteed 5,000 start lifecycle
Versatile for all environments, starting engines up to 9L
Available with all additional features



SMS/SMR

Compact, lightweight spring starter using power springs
Fits smaller engines than the SS/HSS models
Lower cost option with high reliability



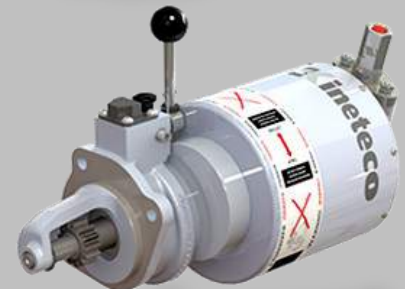
SZS/SZR

Power spring starter with Z-drive gearbox
Gearbox allows for fitment to smaller engines
Gear ratios available to start a wider range of engines



SZHS/SZHR

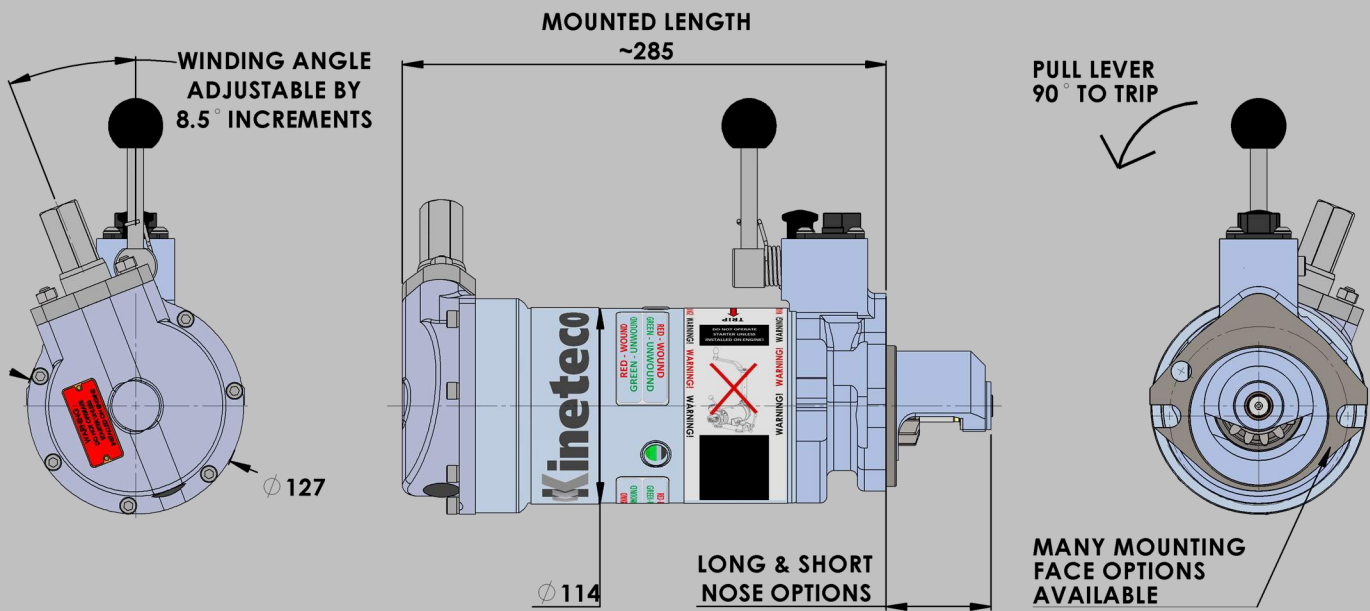
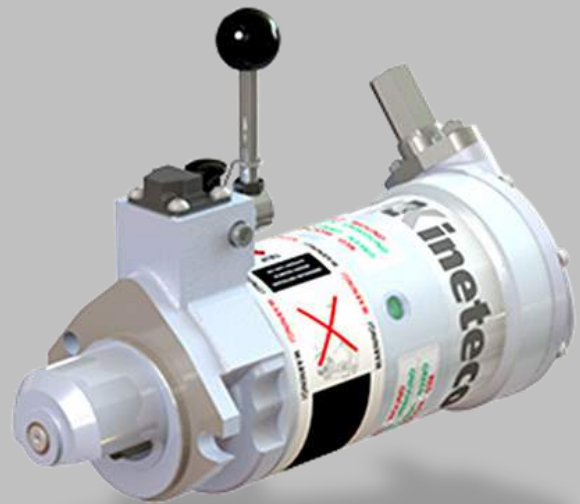
High powered Z-drive power spring starter
65% more starting energy than an HSS
Starts engines up to 15L
Gearbox adds flexibility of fitment and pinion output



SS/SR Series

Starting first time even in the most demanding conditions

- The original spring starter
- Unique 50 years' reliable service
- Rugged steel construction
- High torque disc spring power
- Wide range of engines to 6L
- Manual set and trip mechanism
- Crank wound with detachable handle



Kineteco SS/SR Series

Spring Starter Specification

Description	Spring starter with disc springs on a ball screw wound by a detachable handle, set and tripped by hand. Formerly made by Lucas/CAV
Rotation of Starter	SS = CW SR = CCW
Engine Capacity	Max. 6 cylinders, up to 1L per cylinder (subject to local environmental conditions and engine start-up load)
Torque	95 Nm
No. of Output Turns	3
Output Energy	Nom. 1000 Joules
Cold Starting	To 0°C (32°F) starting aids may be required
Maximum Winding Load	61 Nm torque
To Wind Fully	10 turns
Mounting Flange Types	SAE 1, SAE2/3, SAE 4/5, Ford. Can be customised
Pinions Available	Fellows stub 10/12, 8/10, Module 2.5, 3.0. From 11 to 18 teeth Can be customised
Winding Handle Position	Variable in 8.5° increments
Weight	16kgs
Shipping Dimensions	40 x 22 x 27 cm
Standard Equipment	Winding handle and handbook

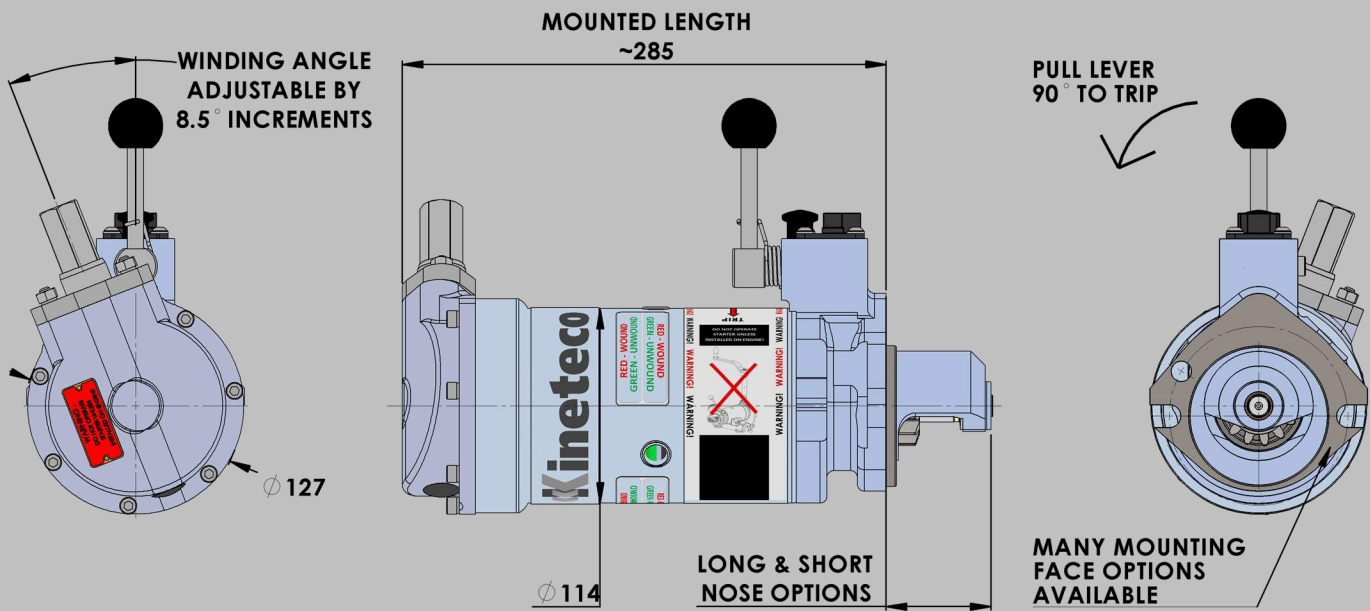
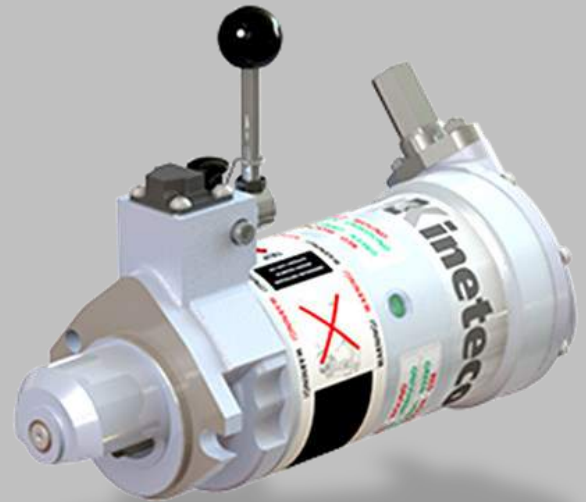
Options – All models have the following options available

F	Flameproof
E	E-pack for dual starter installations
M	Sealed version for marine environments

HSS/HSR Series

Starting up to 9 litre engines with ease

- Heavy duty version of the original spring starter
- Unique 50 years reliable service
- Rugged steel construction
- High torque disc spring power
- Suits a wide range of engines
- Manual set and trip mechanism
- Crank wound with detachable handle



Kineteco HSS/HSR Series

Spring Starter Specification

Description	Spring starter with heavy duty disc springs, on a ball screw wound by a detachable handle, set and tripped by hand. Formerly made by Lucas/CAV
Rotation of starter	HSS = CW HSR = CCW
Engine Capacity	Max. 6 cylinders, up to 1.5L per cylinder (Subject to local environmental conditions and engine start-up load)
Torque	126 Nm
No. of Output Turns	3
Output Energy	Nom. 1500 Joules
Cold Starting	To 0°C (32°F) starting aids may be required
Maximum Winding Load	81 Nm torque
To Wind Fully	10 turns
Mounting Flange Types Available	SAE 1, SAE2/3, SAE 4/5, Ford. Can be customised
Pinions Available	Fellows stub 10/12, 8/10, 6/8; Module 2.5, 3.0. From 11 to 18 teeth Can be customised
Winding handle position	Variable in 8.5° increments
Weight	16kgs
Shipping Dimensions	40 x 22 x 27 cm
Standard Equipment	Winding handle and handbook

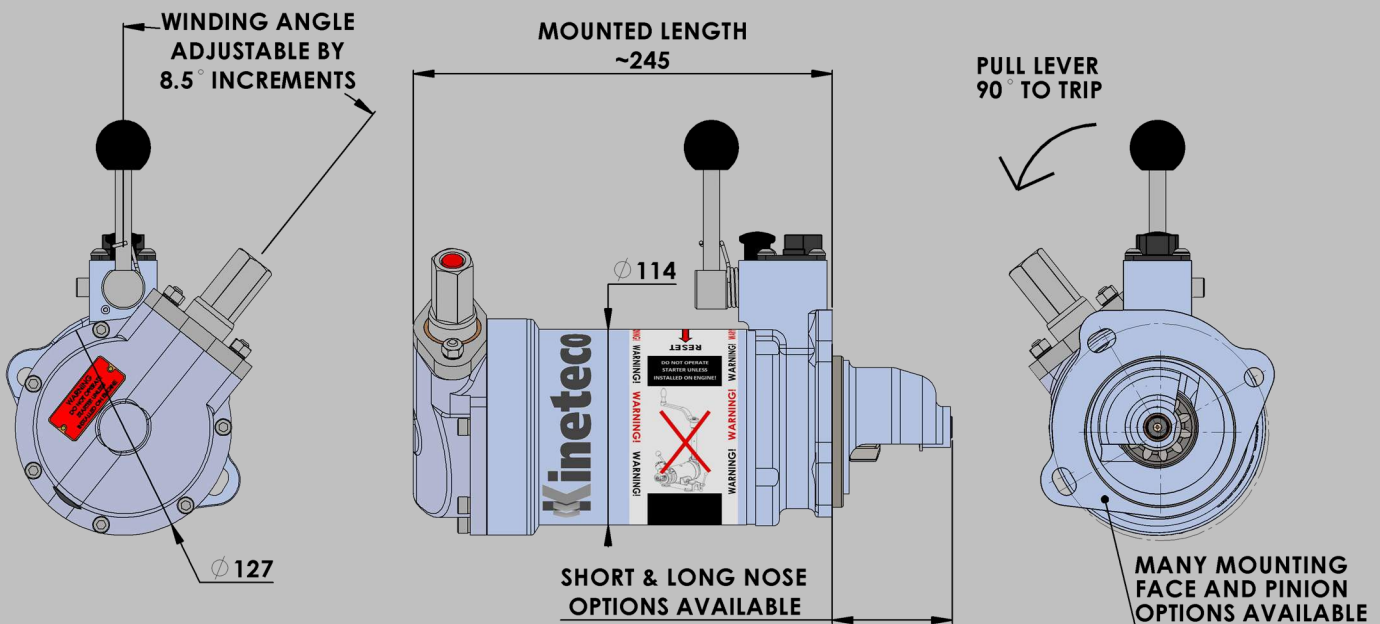
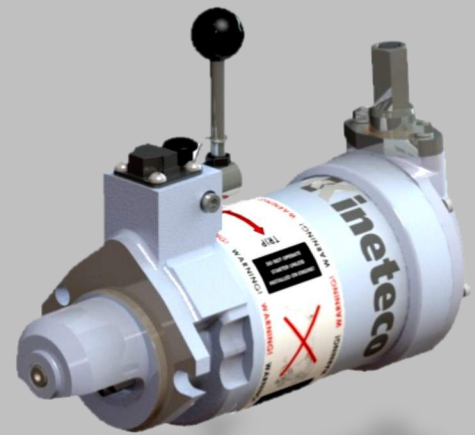
Options - All models have the following options available

F	Flameproof
E	E-pack for dual starter installations
M	Sealed version for marine environments

SMS/SMR Series

Reliable, compact, low cost hand starting for smaller engines

- Small, lightweight starter to fit small engines
- Smooth action power spring for easy winding
- Uses standard SS/SR nosepieces with manual engagement and trip mechanism
- Fits anywhere that a SS/SR starter will go
- Standard SS/SR crank wind with detachable handle



Kineteco SMS/SMR Series

Spring Starter Specification

Description	SS/SR based spring starter, power spring pack, set and tripped by hand. Designed, manufactured by, and exclusive to, Kineteco
Rotation of starter	SMS = CW SMR = CCW
Engine Capacity	Max. 4L (subject to local environmental conditions and engine start-up load)
Torque (Range)	47Nm
No. of Output Turns	7
Output Energy	Nom. 950 Joules
Cold Starting	To 5°C (41°F) starting aids may be required
Maximum Winding Load	25Nm torque
To Wind Fully	20 turns
Mounting Flange Types Available	SAE 1, SAE2/3, SAE 4/5, Ford. Can be customised
Pinions Available	Fellows stub 10/12, 8/10, 6/8; Module 2.5, 3.0. From 11 to 18 teeth Can be customised
Winding handle position	Variable in 8.5° increments
Weight	14kgs
Shipping Dimensions	40 x 22 x 27 cm
Standard Equipment	Winding handle and handbook

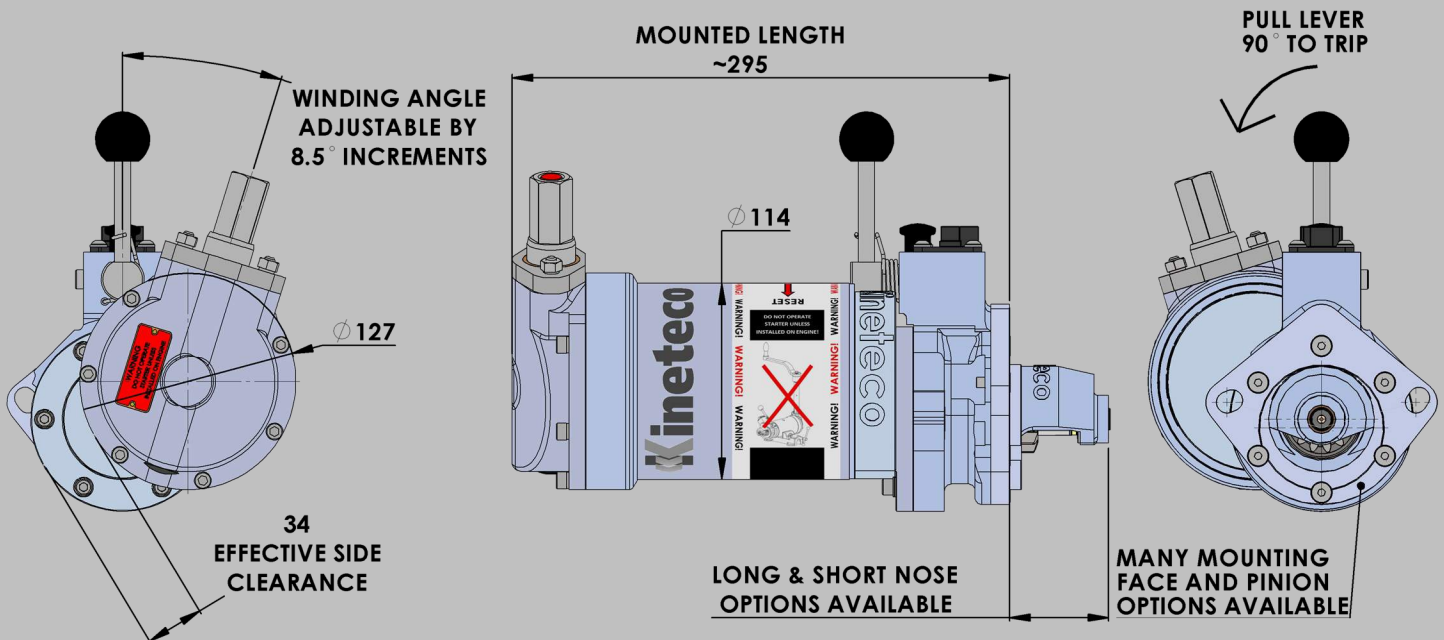
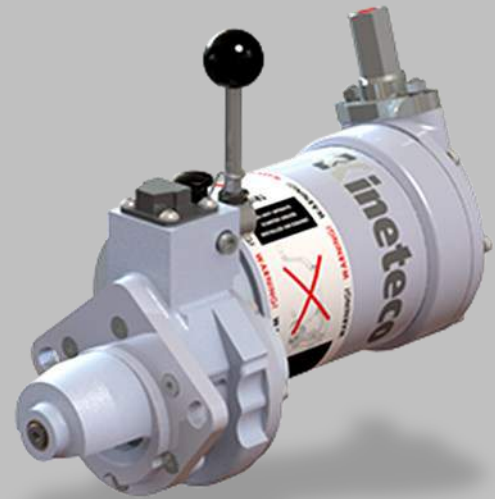
Options - All models have the following options available

F	Flameproof
E	E-pack for dual starter installations
M	Sealed version for marine environments

SZS/SZR Series

Hand starting for the modern engine

- Z-drive spring starter with offset gearbox
- Small, lightweight starter for engines with restricted block clearance
- Smooth action power spring for easy winding
- Standard SS/SR nosepieces with
- manual engagement and trip mechanism
- Standard SS/SR crank wind with detachable handle



Kineteco SZS/SZR Series

Spring Starter Specification

Description	SS/SR based spring starter with Z-Drive gearbox, power spring pack, set and tripped by hand. Designed, manufactured by, and exclusive to, Kineteco
Rotation of Starter	SS = CW SR = CCW
Engine Capacity	Max. 4L (subject to local environmental conditions and engine start-up load)
Torque (Range)	20 – 73 Nm Incremental (gearing dependant)
No. of Output Turns	4.4 – 16 Incremental (gearing dependant)
Output Energy	Nom. 950 Joules
Cold Starting	To 5°C (41°F) starting aids may be required
Maximum Winding Load	25Nm torque
To Wind Fully	20 turns
Mounting Flange Types	SAE 1, SAE2/3, SAE 4/5, Ford. Can be customised
Pinions Available	Fellows stub 10/12, 8/10, 6/8; Module 2.5, 3.0. From 11 to 18 teeth Can be customised
Winding Handle Position	Variable in 8.5° increments
Weight	14kgs
Shipping Dimensions	40 x 22 x 27 cm
Standard Equipment	Winding handle and handbook

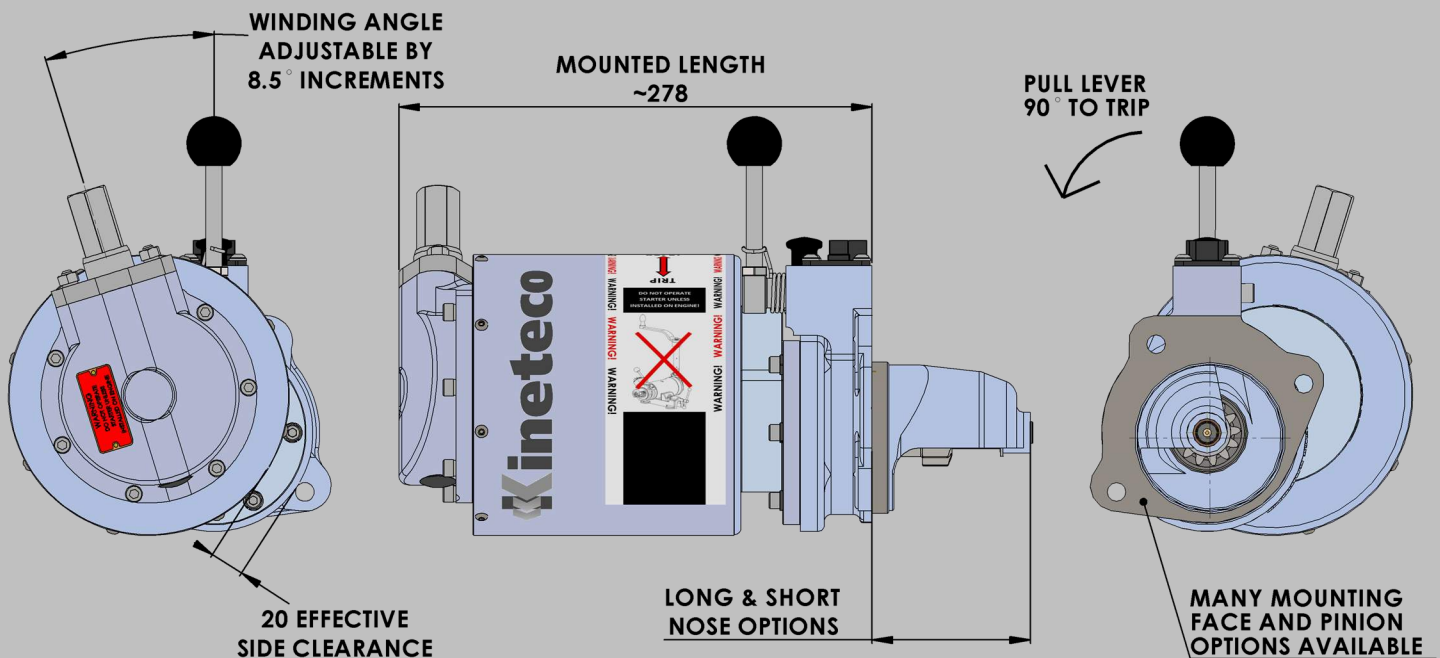
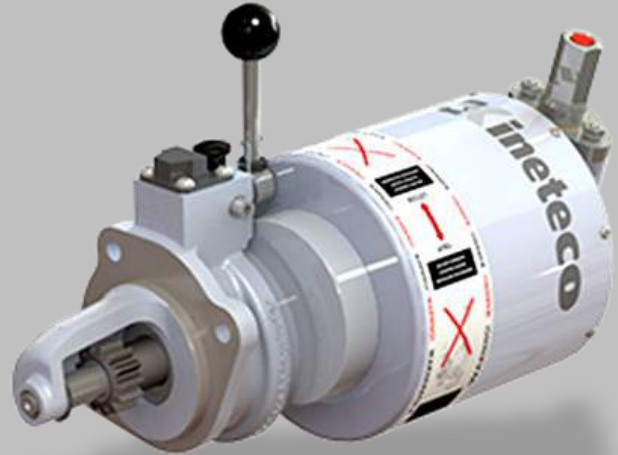
Options - All models have the following options available

F	Flameproof
E	E-pack for dual starter installations
M	Sealed version for marine environments

SZHS/SZHR Series

Easy starting for large capacity engines

- Powerful spring starter with Z-drive offset gearbox
- Smooth action power spring for easy winding
- Standard SS/SR nosepieces with manual engagement and trip mechanism
- Standard SS/SR crank wind with detachable handle



Kineteco SZHS/SZHR Series

Spring Starter Specification

Description	SS/SR based spring starter with Z-Drive gearbox, heavy duty power spring, set and tripped by hand. Designed, manufactured by, and exclusive to, Kineteco
Rotation of Starter	SZHS = CW SZHR = CCW
Engine Capacity	Max. 6 cylinders, to over 2.25L per cylinder (subject to local environmental conditions and engine start-up load)
Torque (Range)	29.5 – 112 Nm Incremental (gearing dependant)
No. of Output Turns	5 – 19 Incremental (gearing dependant)
Output Energy	Nom. 2510 Joules
Cold Starting	To 5°C (41°F) starting aids may be required
Maximum Winding Load	40Nm torque
To Wind Fully	35 turns
Mounting Flange Types	SAE 1, SAE2/3, SAE 4/5, Ford. Can be customised
Pinions Available	Fellows stub 10/12, 8/10, 6/8; Module 2.5, 3.0. From 11 to 18 teeth Can be customised
Winding Handle Position	Variable in 8.5° increments
Weight	20kgs
Shipping Dimensions	40 x 22 x 27 cm
Standard Equipment	Winding handle and handbook

Options - All models have the following options available

F	Flameproof
E	E-pack for dual starter installations
M	Sealed version for marine environments

Product Features & Options

Kineteco spring starters can be specified as follows:

- F:** Flameproof finish, originally Lloyds Register approved, for use in hazardous environments
- E:** E-pack dual start protection system. For dual starter installations where an electric starter is also used, the E-pack prevents simultaneous starter engagement
- M:** Marine build, featuring sealed internals for reliable use at sea

	Clockwise	Counter-Clockwise	Disc Springs	Power Spring	Z Drive Gearbox	Flameproof	Marine option	E-Pack dual start protection	High Torque	High output turns
SS	●		●			○	○	○		
SR		●	●			○	○	○		
HSS	●		●			○	○	○	●	
HSR		●	●			○	○	○	●	
SMS	●			●			○	○		
SMR		●		●			○	○		
SZS	●			●	●		○	○		
SZR		●		●	●		○	○		
SZHS	●			●	●		○	○		●
SZHR		●		●	●		○	○		●

● Standard feature ○ Optional extra

E-PACK

Kineteco recommend spring starters are fitted with an E-pack system if they are intended for use in a dual starter installation with an electric starter.

Kineteco's E-pack system automatically disables the electric starter when the spring starter is engaged. This is essential on dual starter engine applications where the spring starter is used as an emergency back up to the electric starter, such as a lifeboat engine.

In a dual starter application the two starters should not be operated at the same time as this can cause damage to both starters and the engine itself.

The Kineteco E-pack system prevents this damage occurring.



Spring starters featuring an E-pack will have an 'E' suffix on the model number.

Please specify that your installation is 'dual start' when submitting your enquiry to ensure an E-pack add-on is included for your spring starter.

Applications Guide

Kineteco are able to build a spring starter to your own configuration if your engine manufacturer is not one of those listed below.

- BAUDOUIN
- BMW
- BUKH
- CATERPILLAR
- CUMMINS
- DAEWOO
- DAF
- DAIHATSU
- DETROIT DIESEL
- DEUTZ
- DOOSAN (DAEWOO)
- FARYMANN
- FORD
- GENERAL MOTORS/BEDFORD
- HARBOR MASTER
- HATZ
- INTERNATIONAL HARVESTER
- ISUZU
- IVECO AIFO/FIAT
- JCB
- JOHN DEERE
- KIRLOSKAR
- KUBOTA
- LEYLAND
- LISTER
- LOMBARDINI
- MAN
- MERCEDES BENZ
- MERMAID
- MITSUBISHI
- MITSUI-DEUTZ
- MTU
- MWM
- ONAN
- PERKINS
- PERKINS PRIMA
- PETER
- RUGGERINI
- SABB
- SABRE
- SAMÉ
- SAVIEM
- SCANIA
- SISU/VALMET
- SIYANG POWER (EAST CHINA)
- SLANZI MOTORS
- VM
- VOLVO PENTA
- WATERMOTA MARINE
- WISCONSIN
- YANMAR

Please contact the technical team, or complete the new enquiry form on our website, to discuss your application needs in more detail.



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