



Compare with Air Starter:
碟形弹簧储能起动机安装与气动马达的比较:



碟形弹簧储能起动机
Disc Spring Starter



中国制造
Made in China

PN 230531-03

公司 Company

本公司是一家专业研究制造人工机械储能起动机的公司，公司的质量管理体系通过了中国船级社（CCS）的认证，采用ERP系统进行业务流程管理，产品获多项国家专利授权，并以高品质的制造工艺，保证产品质量和技术的领先地位。

A company is specially working on design, manufacturing and service of mechanical starters for diesel engine. Company has CCS certificate of Quality Management System and ERP material and operation control system.

外形图和主要参数

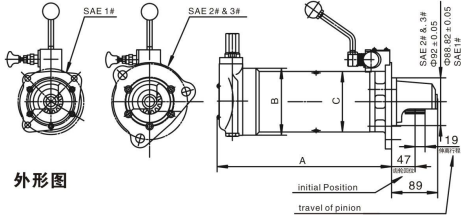
OUTSIDE VIEW AND PARAMETERS



典型应用

TYPICAL APPLICATIONS

- 注1：起动机盘动轴头的朝向可按照所配发动机不同需要调整
Cranking direction of input adaptor can be adjusted for different engine requirements.
- 注2：起动机飞轮驱动齿轮参数可按照所配发动机不同飞轮齿圈而改变
Starter pinion could be changed to match different engine ring gear.
- 注3：根据发动机飞轮齿单耳或双耳的设计，起动机可作电马达的备用机，也可作第二紧急启动能源或主启动能源。
In accordance with design of engine flywheel housing(1 or 2 starter bore), the spring starter could be stand-by of electric starter, be second emergency starting power or prime starting power of the engine.



外形图

主要参数表 Parameter

注：一般情况下起动机带有防止误操作的互锁保护装置。
Note: To avoid damage of starter, a micro switch is normally fitted on the starter.

| DL起动机系列 DL starter Series | | HD | HDP | SHD | HDP-2 | HDC |
|----------------------------------|--|------------|--------------------|--------------------|--------------------|--------------|
| | | 重量 1100 | 加重型 2100 | 超重量 3100 | 加重2型 4100 | 重量反转 5200 |
| 安装法兰 Mounting Flange | SAE# 标准号 | 1,2 & 3 | 1,2 & 3 | 1,2 & 3 | 1,2 & 3 | 1,2 & 3 |
| 发动机排量 Engine Displacement | 升 / 每缸& 最多汽缸数 l/cyl. & Max.cyl.Number | 1.4 & 6 | 1.7 & 6 1.4 & 8 | 2.5 & 6 2.0 & 8 | 2.1 & 6 1.7 & 8 | 1.4 & 6 |
| 驱动力矩(推荐) Recom. Pinion Torque | Nm | 126 | 126 | 167 | 126 | 126 |
| 最大盘动力矩 Max. Winding Torque | Nm | 100 | 100 | 100 | 100 | 100 |
| 盘动圈数 Turns to Fully Wind | 圈 Turns | 2+8 | 2+11 | 2+15 | 2+13 | 2+8 |
| 长度 A | mm | 288 | 332 | 368 | 368 | 288 |
| 直径 B | mm | 130 | 130 | 143 | 130 | 130 |
| 直径 C | mm | 117 | 117 | 133 | 117 | 117 |



产品

什么是达林牌碟形弹簧储能起动机

- 以碟形弹簧为储能介质的起动机，它仅用人为盘动来压缩弹簧，然后快速向柴油缸飞轮释放能量使发动机起
- 动，无能源消耗和排放污染
- 用标准的方式安装在柴油机上，但它无需蓄电池、压缩
- 空气罐或液压驱动器，以及控制阀、电缆或管线等
- 达林起动机采用高强度合金钢材料制造，使用中无火花或
- 辐射，适用于火花敏感或难以实施设备维护的场所

达林牌起动机的应用

- 一般工业用途：备用和替换其它启动系统。装在陆上和
- 船用发电机组、矿用机械、工程机械和农用排灌机械
- 特殊环境：煤矿、油田和化工厂等
- 应急工况：消防设备和救生船舶，抢险排水和供电设
- 备，某些军事用途上

达林牌起动机的特性

- 可满足排量3-19升柴油机的启动需要。它可适应不同工
- 作环境，严寒地区需要发动机辅助启动装置
- 起动机安装符合SAE标准
- 盘动轴头的方向可调整到最佳人力盘动角度

Product

What is the DL Spring Starter

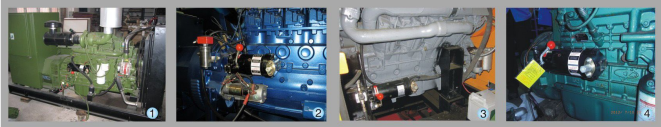
- The starter is to compress and energize the high energy disk springs within the unit and is
- rapidly discharge energy to start the engine.It needs only hand cranking and releasing without
- other power consumption and emissions.
- A kind of starter, can be installed on an engine as same method of electric motor, but it does not
- need auxiliaries like batteries, compressed air tank, hydraulic actuator and valves, cable and pipe
- lines.
- DL Spring Starter is virtually maintenance free and so ideal for engines in remote or isolated areas.

DL Spring Starter applications

- General industry: stand-by or replacement of other starting system on Gen-set, mining machine,
- marine, construction and agriculture application engine.
- DL Spring Starter is spark free. It can be used at special area (coal mine, oil rig and chemical
- plant, etc.)
- Spared for urgent events (fire fighting, flood, saving, etc.) and military applications

Typical Features:

- DL Spring Starter is to meet the requirement of wide displacement range diesel engines (about 3-
- 19L displacement). DL Spring Starter can be used at various environments. Cold area application
- should consider using engine cold starting aids.
- The starter mounting requirement meets the SAE standard.
- DL Spring Starter input adaptor direction can be adjusted widely to get the angle that lets cranking
- comfortable.



| | | | | | |
|----------|-------------------|---------------------|---------------------|--------------------------|---------------------|
| 图标编号 | Picture NO. | 1 | 2 | 3 | 4 |
| 配套主机 | Engine | Cummins B, C, L | Weichai 226B, WPG4 | Huachai F8L513/413, 1015 | Yuchai YC6T/8, 4D/F |
| 起动机系列 | Starter Series | 1100, 2100, 4100 | 1100, 2100 | 2100, 4100, 3100 | 1100, 2100, 3100 |
| SAE# 标准号 | Installation Std. | 1, 2, 3 | 1 | 1, 2, 3 | 1, 2, 3 |
| 适应飞轮壳 | Flywheel Housing | 1 or 2 Starter Bore | 1 or 2 Starter Bore | 1 or 2 Starter Bore | 1 or 2 Starter Bore |



| | | | | | |
|----------|-------------------|---------------------|---------------------|---------------------|---------------------|
| 图标编号 | Picture NO. | 5 | 6 | 7 | 8 |
| 配套主机 | Engine | Cummins NT | Weichai WD10, WD12 | TBD234 V6, V8, V12 | Hangzhou WD615/415 |
| 起动机系列 | Starter Series | 3100 | 2100, 4100 | 2100, 4100 | 2100, 4100 |
| SAE# 标准号 | Installation Std. | 3 | 1 | 1 | 1 |
| 适应飞轮壳 | Flywheel Housing | 1 or 2 Starter Bore | 1 or 2 Starter Bore | 1 or 2 Starter Bore | 1 or 2 Starter Bore |



| | | | | | |
|----------|-------------------|---------------------|---------------------|---------------------|---------------------|
| 图标编号 | Picture NO. | 9 | 10 | 11 | 12 |
| 配套主机 | Engine | Shanghai 6135, G128 | Volvo D7A | CAT C4.4 | Changchai 360-485 |
| 起动机系列 | Starter Series | 2100, 4100 | 1100 | 1100, 2100 | 5200 |
| SAE# 标准号 | Installation Std. | 1 | 1 | 1 | 1 |
| 适应飞轮壳 | Flywheel Housing | 1 or 2 Starter Bore | 1 or 2 Starter Bore | 1 or 2 Starter Bore | 1 or 2 Starter Bore |