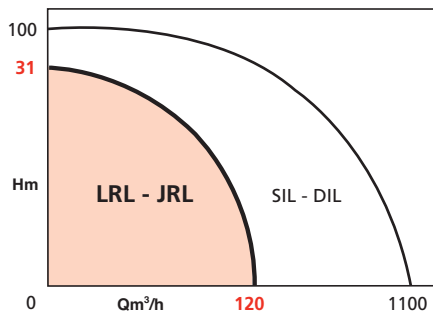


## RANGE OF APPLICATION

|                           |                       |
|---------------------------|-----------------------|
| Flows up to:              | 120 m <sup>3</sup> /h |
| Manometric head up to:    | 31 m                  |
| Maximum working pressure: | 10 bar                |
| Temperature range:        | -20° to +110°C        |
| Nominal diameter ports:   | 25 to 80              |
| MEI* of reference:        | ≥ 0,10                |

\*Minimum Efficiency Index



## ADVANTAGES

- Low electrical consumption.
- Mounts directly onto horizontal or vertical pipework.
- Not coupled: no need to align the shafts.
- Device to de-aerate the mechanical seal permanently.
- Easy and quick to install.

### JRL

- A backup pump permanently available.
- The two pumps can be operated in parallel to increase the flow.
- Manual or automatic pump switchover by MGP box.



• LRL-U: horizontal motor



• JRL: horizontal motors



• LRL: vertical motor



• JRL: vertical motors



• LRL: moteur vertical

# LRL - JRL

## SINGLE AND DOUBLE IN-LINE PUMPS

Heating - Air conditioning - E.C.S.\*  
50 Hz

\*A.C.S. Standard: contact us

## APPLICATIONS

- Heating small and medium multiple dwellings.
  - Air conditioning.
  - Domestic hot water systems.
  - Many industrial and agricultural applications.
  - Heating greenhouses..
  - Transferring antifreeze.
  - Circulating iced water.
- A.C.S. Standard: contact us.

# LRL - JRL

## DESIGN

### Hydraulic part

- Centrifugal, single-stage.
- Intake and outlet ports in line.
- Flanged pump housing with ports for connecting pressure gauges, or connector union (version U).
- Bearing lantern linking pump to motor.
- Dynamically balanced impeller, mounted directly on the shaft of the motor.
- Waterproof mechanical seal.

### JRL

- Double pump in one housing.
- The two pumps are hydraulically separated by silent-operating valve.

### Motor

- IE2
- One end of shaft lengthened.
- The rotor shaft's guide bearings selected for silent operation.

|                     |                             |
|---------------------|-----------------------------|
| Speed:              | 1450 - 2900 rpm             |
| 3 ~ winding ≤ 3 kW: | 230 V $\Delta$<br>400 V $Y$ |
| 3 ~ = 4kW:          | 400 V $\Delta$              |
| Frequency:          | 50 Hz<br>(option 60 Hz)     |
| Insulation class:   | 155 (F)                     |
| Protection class:   | IP 55                       |
| EC Compliant:       | EN 809                      |

## BASIC CONSTRUCTION

| Main components | Material               |
|-----------------|------------------------|
| Pump housing    | Cast iron EN GJL 250   |
| Bearing lantern | Cast iron EN GJL 250   |
| Shaft           | Steel X20 - Cr13       |
| Mechanical seal | Graphite/Carbide Si/EP |
| Joint of corps  | Ethylene Propylene     |
| Impeller        | Composite              |

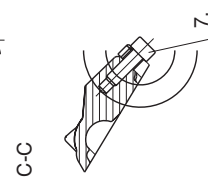
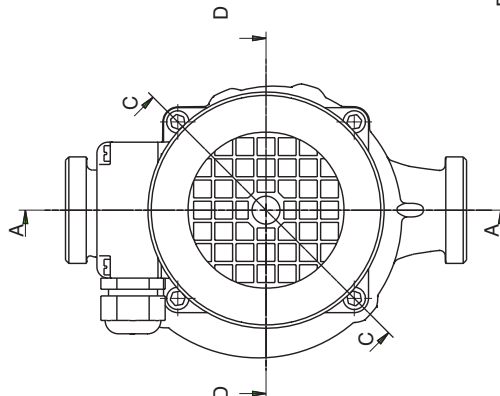
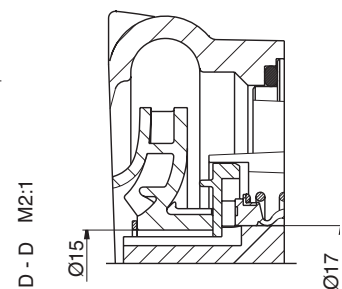
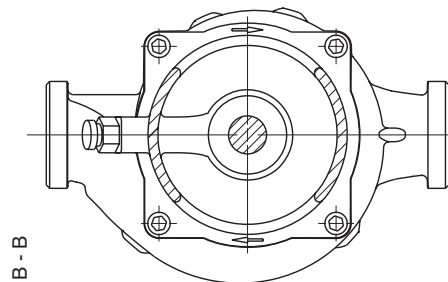
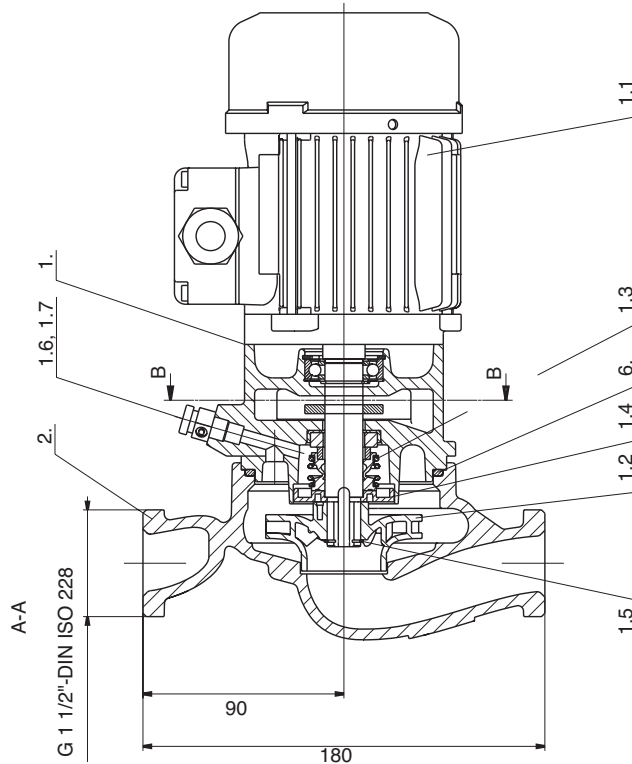
## IDENTIFICATION

**LRL 2 03 U - 09/0.25 - P2**

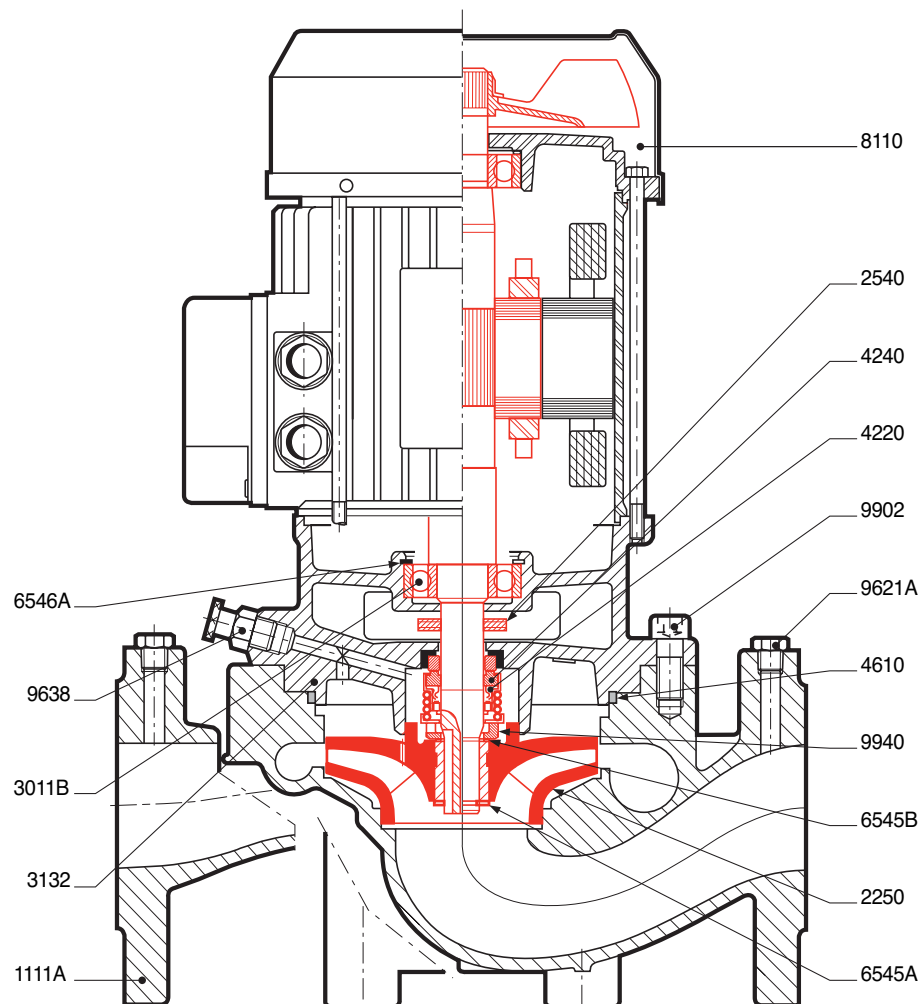
**JRL 4**

|                                    |       |
|------------------------------------|-------|
| single pump                        | _____ |
| double pump                        | _____ |
| 2 = 2 pole: 2900 rpm               | _____ |
| 4 = 4 pole: 1450 rpm               | _____ |
| Nominal diam. of ports (cm)        | _____ |
| to connector union                 | _____ |
| Nominal diam. of the impeller (cm) | _____ |
| Motor power (kW)                   | _____ |
| Option: ACS version (contact us)   | _____ |

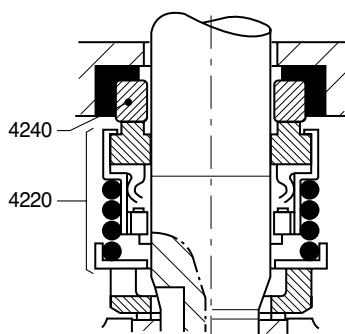
## LRL-U – PLAN AND CROSS-SECTION



## LRL - PLAN AND CROSS-SECTION



### GARNITURE MÉCANIQUE (LRL-JRL)

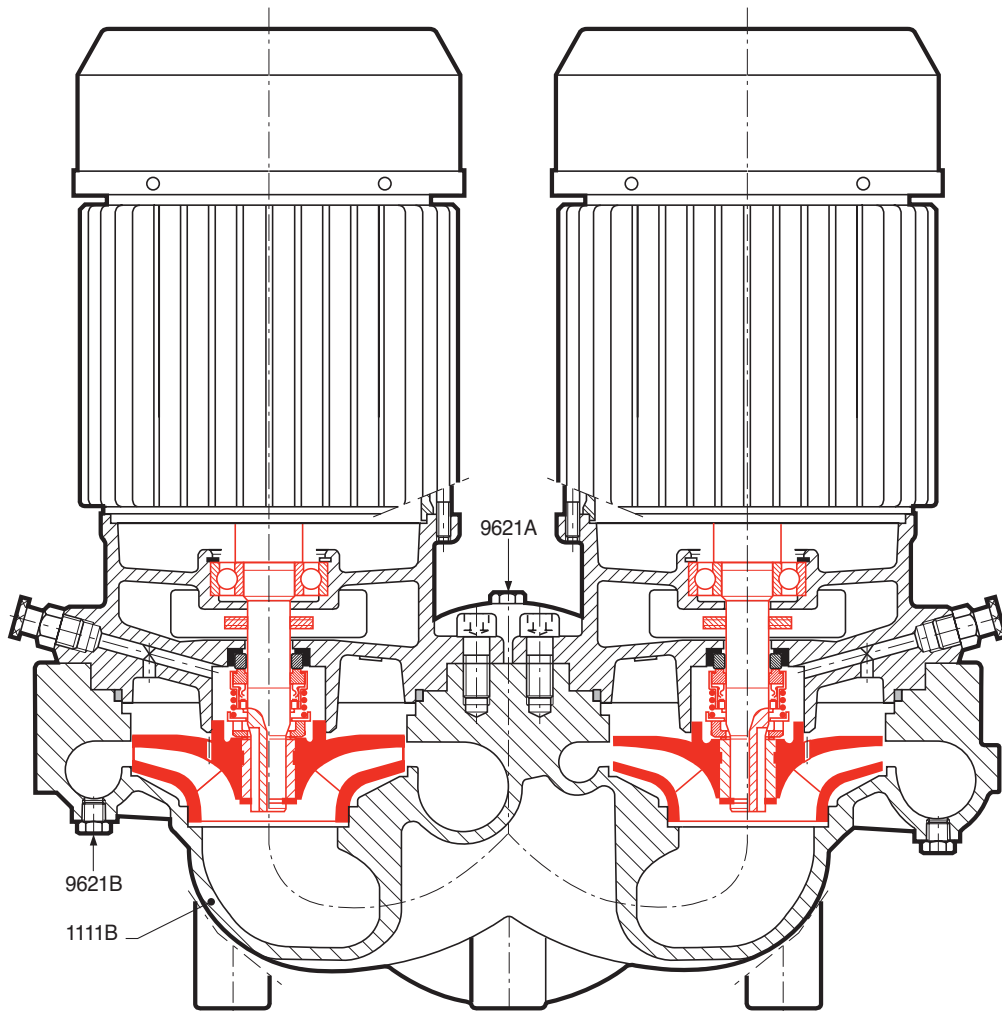


### List (common to LRL - JRL)

- 1111A - Single pump housing
- 1111B - Double pump housing
- 2250 - Impeller
- 2540 - Deflector
- 3011B - Guide bearing
- 3132H - Bearing lantern
- 4220H - Rotating ring of mechanical seal
- 4240H - Fixed ring of mechanical seal
- 4610H - Fixed ring of mechanical seal
- 6545A - Snap ring on shaft
- 6545B - Snap ring on shaft
- 6546A - Circlip of bearing
- 8110H - Electric motor
- 9621A - Plug for pressure gauge take-off
- 9621B - Drain plugs (JRL)
- 9638 - De-aerator of mechanical seal
- 9647H - Outlet valve (JRL)
- 9902H - Bearing lantern retaining screw
- 9940H - Axial bearing of mechanical seal
- (•) Spare parts recommended

# LRL - JRL

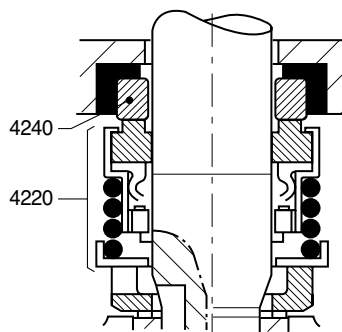
## JRL – PLAN AND CROSS-SECTION



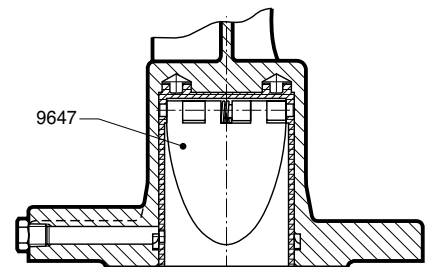
### List (common to LRL - JRL)

- 1111A - Single pump housing
  - 1111B - Double pump housing
  - 2250 - Impeller
  - 2540 - Deflector
  - 3011B - Guide bearing
  - 3132H - Bearing lantern
  - 4220H - Rotating ring of mechanical seal
  - 4240H - Fixed ring of mechanical seal
  - 4610H - O-ring pump housing
  - 6545A - Snap ring on shaft
  - 6545B - Snap ring on shaft
  - 6546A - Circlip of bearing
  - 8110H - Electric motor
  - 9621A - Plug for pressure gauge take-off
  - 9621B - Drain plugs (JRL)
    - 9638 - Deaerator of mechanical seal
  - 9647H - Outlet valve (JRL)
  - 9902H - Bearing lantern retaining screw
  - 9940H - Axial bearing of mechanical seal
- (-) Spare parts recommended

**MECHANICAL SEAL  
(LRL-JRL)**

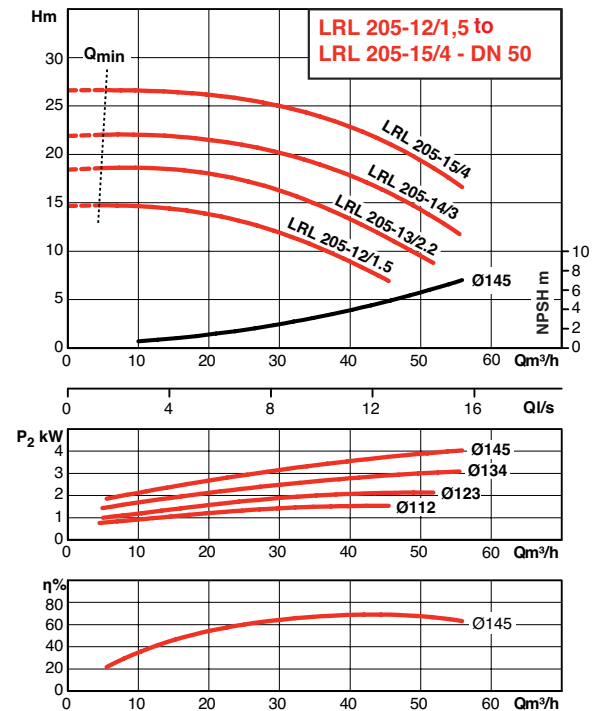
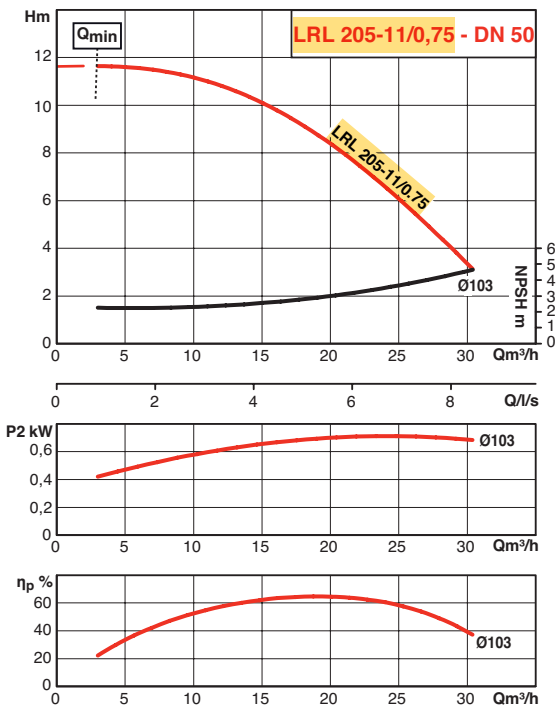
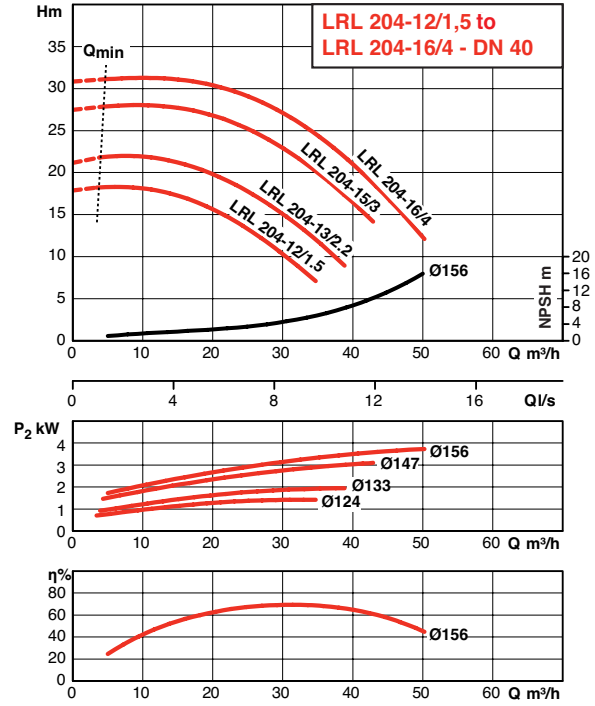
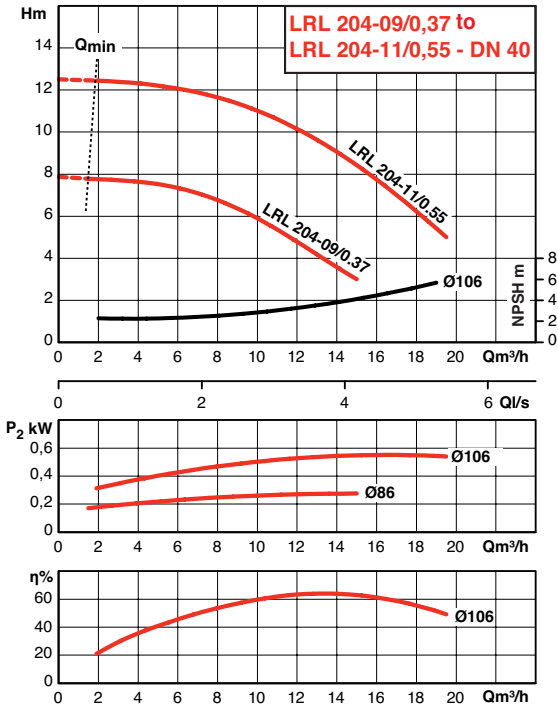


**DETAILS OF OUTLET (JRL)  
VALVE**

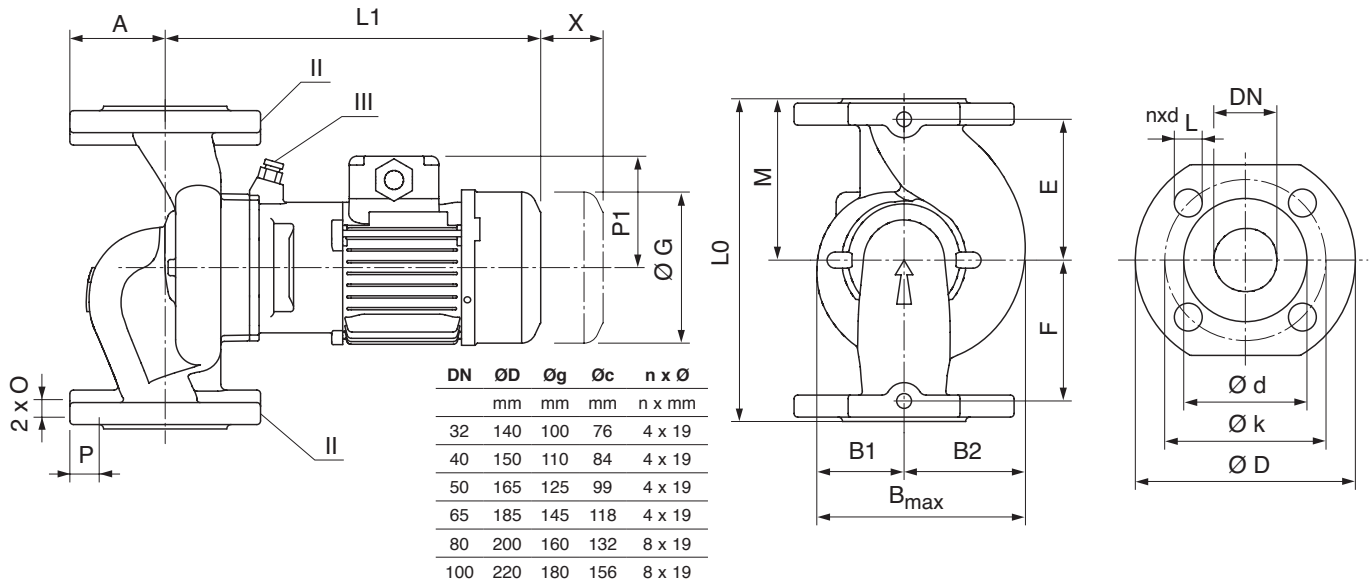


# LRL - JRL

## HYDRAULIC PERFORMANCE LRL 2 POLE



## LRL: ELECTRICAL CHARACTERISTICS AND SIZES



| ORDER REFERENCE  | MOTOR   |                       |              |               |                           | PUMP |     |    |       |     |     |       |     |       |     |     |     |     |     |    |     |       | mass |
|------------------|---------|-----------------------|--------------|---------------|---------------------------|------|-----|----|-------|-----|-----|-------|-----|-------|-----|-----|-----|-----|-----|----|-----|-------|------|
|                  | P2<br>W | Efficiency of motor % | Power factor | Nominal speed | Nominal current (approx.) | DN   | A   | T  | B max | B1  | B2  | L1    | L0  | P1    | C   | E   | F   | M   | O   | P  | X   | ØG    |      |
|                  |         | η                     | cos φ        | rpm           | in A                      | mm   | mm  | mm | mm    | mm  | mm  | mm    | mm  | mm    | mm  | mm  | mm  | mm  | mm  | mm | mm  | mm    |      |
| LRL203-16/1.1    | 370     | 72.8                  | 0.78         | 2900          | 0.86                      | 32   | 70  | 55 | 207   | 101 | 106 | 321   | 260 | 121   | 90  | 40  | 50  | 130 | M10 | 20 | 150 | 141.2 | 20.7 |
| LRL203-09/0.37   | 550     | 75.5                  | 0.76         | 2900          | 1.33                      | 32   | 70  | 55 | 207   | 101 | 106 | 321   | 260 | 121   | 90  | 40  | 50  | 130 | M10 | 20 | 150 | 141.2 | 23   |
| LRL203-10/0.55   | 750     | 77.4                  | 0.81         | 2900          | 1.7                       | 32   | 70  | 55 | 207   | 101 | 106 | 341   | 260 | 128   | 90  | 40  | 50  | 130 | M10 | 20 | 150 | 185   | 25.5 |
| LRL203-11/0.75   | 1100    | 79.6                  | 0.83         | 2900          | 2.4                       | 32   | 70  | 55 | 207   | 101 | 106 | 341   | 260 | 128   | 90  | 40  | 50  | 130 | M10 | 20 | 150 | 185   | 26.1 |
| LRL203-13/1.1    | 1100    | 79.6                  | 0.83         | 2900          | 2.4                       | 32   | 70  | 55 | 207   | 101 | 106 | 341   | 260 | 128   | 90  | 40  | 50  | 130 | M10 | 20 | 150 | 185   | 26.1 |
| LRL204-07/0.12   | 120     | 64                    | 0.75         | 2780          | 0.33                      | 40   | 65  | 61 | 159   | 75  | 84  | 259   | 220 | 76    | -   | 95  | 95  | 110 | M10 | 20 | 150 | 106   | 11   |
| LRL204-09/0.37   | 370     | 72.8                  | 0.78         | 2900          | 0.86                      | 40   | 65  | 50 | 170   | 80  | 90  | 320   | 250 | 121   | -   | 110 | 110 | 125 | M10 | 20 | 150 | 141.2 | 19.2 |
| LRL204-11/0.55   | 550     | 75.5                  | 0.76         | 2900          | 1.33                      | 40   | 65  | 50 | 170   | 80  | 90  | 320   | 250 | 121   | -   | 110 | 110 | 125 | M10 | 20 | 150 | 141.2 | 20.1 |
| LRL204-12/1.5    | 1500    | 81.3                  | 0.78         | 2900          | 3.3                       | 40   | 75  | 49 | 234   | 113 | 121 | 373.5 | 320 | 149.5 | 90  | 40  | 50  | 160 | M10 | 20 | 150 | 193   | 29.5 |
| LRL204-13/2.2    | 2200    | 83.2                  | 0.82         | 2900          | 4.52                      | 40   | 75  | 49 | 234   | 113 | 121 | 373.5 | 320 | 149.5 | 90  | 40  | 50  | 160 | M10 | 20 | 150 | 193   | 31.5 |
| LRL204-15/3      | 3000    | 84.6                  | 0.84         | 2900          | 6.05                      | 40   | 75  | 49 | 234   | 113 | 121 | 408   | 320 | 169.5 | 90  | 40  | 50  | 160 | M10 | 20 | 150 | 217   | 37.6 |
| LRL204-16/4      | 4000    | 85.8                  | 0.84         | 2900          | 7.77                      | 40   | 75  | 49 | 234   | 113 | 121 | 439.5 | 320 | 174.5 | 90  | 40  | 50  | 160 | M10 | 20 | 150 | 232   | 45.7 |
| LRL205-11/0.75   | 750     | 77.4                  | 0.81         | 2900          | 1.7                       | 50   | 75  | 56 | 192   | 91  | 101 | 346   | 280 | 128   | -   | 125 | 125 | 140 | M10 | 20 | 150 | 146   | 27.2 |
| LRL205-12/1.5    | 1500    | 81.3                  | 0.78         | 2900          | 3.3                       | 50   | 86  | 51 | 247   | 116 | 131 | 375.5 | 340 | 149.5 | 104 | 40  | 50  | 170 | M10 | 20 | 150 | 193   | 32.5 |
| LRL205-13/2.2    | 2200    | 83.2                  | 0.82         | 2900          | 4.52                      | 50   | 86  | 51 | 247   | 116 | 131 | 375.5 | 340 | 149.5 | 104 | 40  | 50  | 170 | M10 | 20 | 150 | 193   | 34.5 |
| LRL205-14/3      | 3000    | 84.6                  | 0.84         | 2900          | 6.05                      | 50   | 86  | 51 | 247   | 116 | 131 | 410   | 340 | 169.5 | 104 | 40  | 50  | 170 | M10 | 20 | 150 | 217   | 40.6 |
| LRL205-15/4      | 4000    | 85.8                  | 0.84         | 2900          | 7.77                      | 50   | 86  | 51 | 247   | 116 | 131 | 441.5 | 340 | 174.5 | 104 | 40  | 50  | 170 | M10 | 20 | 150 | 232   | 48.7 |
| LRL206-11/2.2    | 2200    | 83.2                  | 0.82         | 2900          | 4.52                      | 65   | 93  | 57 | 257   | 119 | 138 | 381.5 | 340 | 149.5 | 135 | 40  | 55  | 170 | M10 | 20 | 150 | 193   | 37   |
| LRL206-12/1.5    | 1500    | 81.3                  | 0.78         | 2900          | 3.3                       | 65   | 80  | 67 | 218   | 100 | 118 | 386.8 | 340 | 151   | -   | 155 | 155 | 170 | M10 | 20 | 150 | 193   | 34.6 |
| LRL206-12/3      | 3000    | 84.6                  | 0.84         | 2900          | 6.05                      | 65   | 93  | 57 | 257   | 119 | 138 | 416   | 340 | 169.5 | 135 | 40  | 55  | 170 | M10 | 20 | 150 | 217   | 43.1 |
| LRL206-13/4      | 4000    | 85.8                  | 0.84         | 2900          | 7.77                      | 65   | 93  | 57 | 257   | 119 | 138 | 447.5 | 340 | 174.5 | 135 | 40  | 55  | 170 | M10 | 20 | 150 | 232   | 51   |
| LRL208-10.5/3    | 3000    | 84.6                  | 0.84         | 2900          | 6.05                      | 80   | 105 | 63 | 278   | 125 | 153 | 422   | 360 | 169.5 | 135 | 40  | 55  | 180 | M10 | 20 | 150 | 217   | 46.9 |
| LRL208-11/4      | 4000    | 85.8                  | 0.84         | 2900          | 7.77                      | 80   | 105 | -  | 282   | 125 | 157 | 453   | 360 | 174.5 | 135 | 40  | 55  | 180 | M10 | 20 | 150 | 232   | 57   |
| LRL208-12/2.2    | 2200    | 83.2                  | 0.82         | 2900          | 4.52                      | 80   | 98  | 69 | 245   | 110 | 135 | 388.8 | 360 | 151   | -   | 165 | 165 | 180 | M10 | 20 | 150 | 193   | 41.5 |
| LRL208-12/4      | 4000    | 85.8                  | 0.84         | 2900          | 7.77                      | 80   | 105 | 63 | 278   | 125 | 153 | 453.5 | 360 | 174.5 | 135 | 40  | 55  | 180 | M10 | 20 | 150 | 232   | 55   |
| LRL403-11/0.25   | 250     | 74                    | 0.7          | 1450          | 0.69                      | 32   | 70  | 55 | 207   | 101 | 106 | 297   | 260 | 120   | 90  | 40  | 50  | 130 | M10 | 20 | 150 | 141.2 | 20   |
| LRL403-16/0.25   | 250     | 74                    | 0.7          | 1450          | 0.69                      | 32   | 70  | 55 | 207   | 101 | 106 | 297   | 260 | 120   | 90  | 40  | 50  | 130 | M10 | 20 | 150 | 141.2 | 20   |
| LRL404-08/0.09   | 90      | 67.9                  | 0.73         | 1500          | 0.26                      | 40   | 65  | 65 | 146   | 68  | 78  | 272   | 250 | 107   | -   | 110 | 110 | 125 | M10 | 20 | 150 | 125   | 14.1 |
| LRL404-11/0.12   | 120     | 69.7                  | 0.72         | 1500          | 0.34                      | 40   | 65  | 50 | 170   | 80  | 90  | 294   | 250 | 120   | -   | 110 | 110 | 125 | M10 | 20 | 150 | 141.2 | 18.1 |
| LRL404-13/0.25   | 250     | 74                    | 0.7          | 1450          | 0.69                      | 40   | 75  | 49 | 234   | 113 | 121 | 291   | 320 | 120   | 90  | 40  | 50  | 160 | M10 | 20 | 150 | 141.2 | 21   |
| LRL404-15/0.37   | 370     | 76.1                  | 0.71         | 1450          | 1.06                      | 40   | 75  | 49 | 234   | 113 | 121 | 291   | 320 | 120   | 90  | 40  | 50  | 160 | M10 | 20 | 150 | 141.2 | 22.2 |
| LRL405-11/0.25   | 250     | 74                    | 0.7          | 1450          | 0.69                      | 50   | 75  | 56 | 192   | 91  | 101 | 298.5 | 280 | 120   | -   | 125 | 125 | 140 | M10 | 20 | 150 | 141.2 | 21.7 |
| LRL405-12/0.25   | 370     | 76.1                  | 0.71         | 1450          | 1.06                      | 50   | 86  | 51 | 247   | 116 | 131 | 293   | 340 | 120   | 104 | 40  | 50  | 170 | M10 | 20 | 150 | 141.2 | 24   |
| LRL405-13/0.37   | 370     | 76.1                  | 0.71         | 1450          | 1.06                      | 50   | 86  | 51 | 247   | 116 | 131 | 293   | 340 | 120   | 104 | 40  | 50  | 170 | M10 | 20 | 150 | 141.2 | 25.2 |
| LRL405-15/0.55   | 550     | 78.1                  | 0.71         | 1450          | 1.45                      | 50   | 86  | 51 | 247   | 116 | 131 | 327   | 340 | 128   | 104 | 40  | 50  | 170 | M10 | 20 | 150 | 185   | 29   |
| LRL406-11/0.25   | 250     | 74                    | 0.7          | 1450          | 0.69                      | 65   | 93  | 57 | 257   | 119 | 138 | 299   | 340 | 120   | 135 | 40  | 55  | 170 | M10 | 20 | 150 | 141.2 | 26.5 |
| LRL406-12/0.37   | 370     | 76.1                  | 0.71         | 1450          | 1.06                      | 65   | 93  | 57 | 257   | 119 | 138 | 299   | 340 | 120   | 135 | 40  | 55  | 170 | M10 | 20 | 150 | 141.2 | 27.7 |
| LRL406-13/0.55   | 550     | 78.1                  | 0.71         | 1450          | 1.45                      | 65   | 93  | 57 | 257   | 119 | 138 | 333   | 340 | 128   | 135 | 40  | 55  | 170 | M10 | 20 | 150 | 185   | 31.5 |
| LRL408-12.5/0.75 | 750     | 79.6                  | 0.72         | 1450          | 1.9                       | 80   | 105 | 63 | 278   | 125 | 153 | 339   | 360 | 128   | 135 | 40  | 55  | 180 | M10 | 20 | 150 | 185   | 36.4 |
| LRL408-12/0.55   | 550     | 78.1                  | 0.71         | 1450          | 1.45                      | 80   | 105 | -  | 282   | 125 | 157 | 338.5 | 360 | 128   | 135 | 40  | 55  | 180 | M10 | 20 | 150 | 185   | 37.3 |
| LRL408-14/1.1    | 1100    | 81.4                  | 0.78         | 1450          | 2.5                       | 80   | 105 | 63 | 278   | 125 | 153 | 372.5 | 360 | 146   | 135 | 40  | 55  | 180 | M10 | 20 | 150 | 176.5 | 40.8 |