



Tirana
AGRICULTURAL PUMP RANGE



ROBUST

COMPACT

RELIABLE

SURFACE PUMPS

Built on a heavy duty and proven platform, the Tirrana range of helical rotor pumps offers a peace of mind solution to all types of surface water transfer duties.

PERFORMANCE SUMMARY

| | |
|----------|--------------|
| Capacity | upto 360 LPM |
| Head | upto 120 m |

1

ROTOR-STATOR

Improved rotor-stator geometry minimises wear due to lower rubbing velocities.

2

CARDAN UNIVERSAL JOINT

Facilitates smoother transmission of angular loads. Ensures compact pump.

3

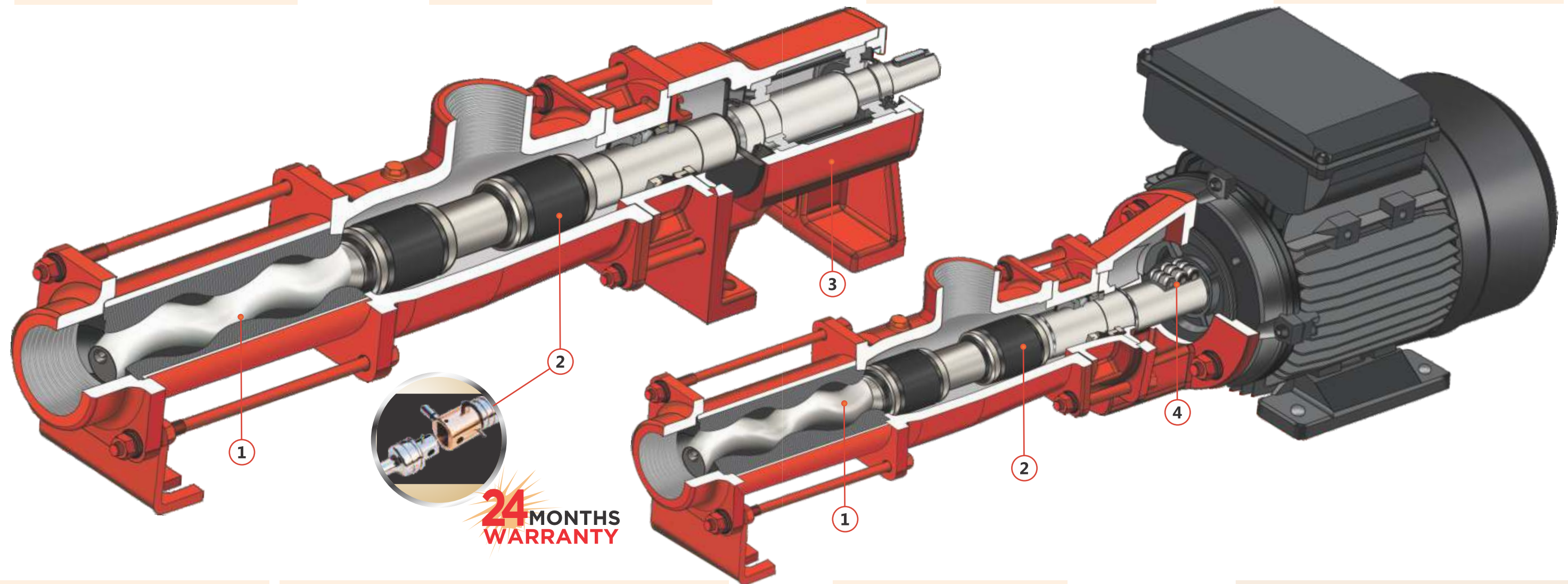
BEARING HOUSING

Robust bearing housing designed to take axial loads. Facilitates easy coupling to various drive options.

4

UNIQUE SPLIT STUB SHAFT

Use of standard IEC frame motor facilitates easy replacement of motor



FEATURES

- Low NPSHR, ensure excellent suction lift capability
- Reversible, providing flexibility in operation
- Minimal variation in flow rates with changes in head
- Non Clogging, can handle high percentage of solids in suspension

MATERIAL OPTIONS⁺

Wettable Housing Parts : Cast Iron

Rotor : Stainless Steel - 410, Hard chrome plated

Stator : Natural, Nitrile

Shaft & Coupling Rod : Stainless Steel - 410⁺⁺

⁺Above material options are standard for Tirrana Range, contact Roto for other material requirements.

⁺⁺With Gland Packing, shaft is Hard chrome plated under Gland Area.

APPLICATIONS

- Ideal for **tank filling** or **stock watering** from dams, creeks, wells and rivers.
- Can handle **clean water**, **brown water**, **dirty water** with sand, silt or algae.

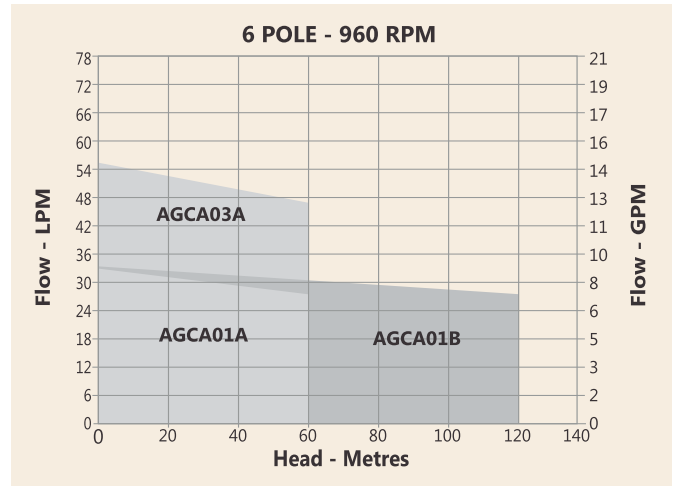
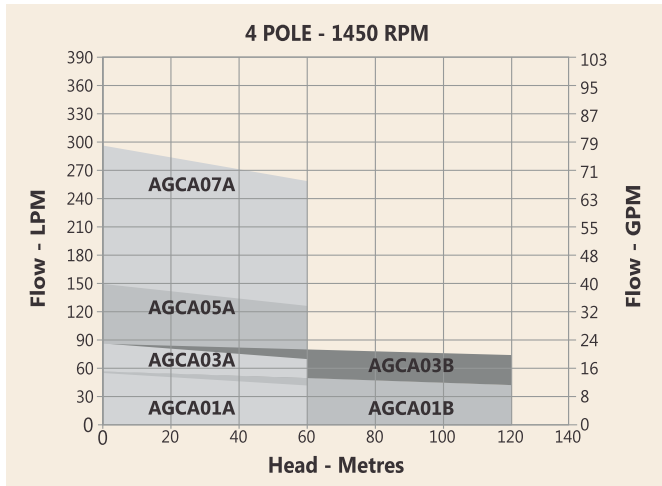
COMPLETE PACKAGE SYSTEMS



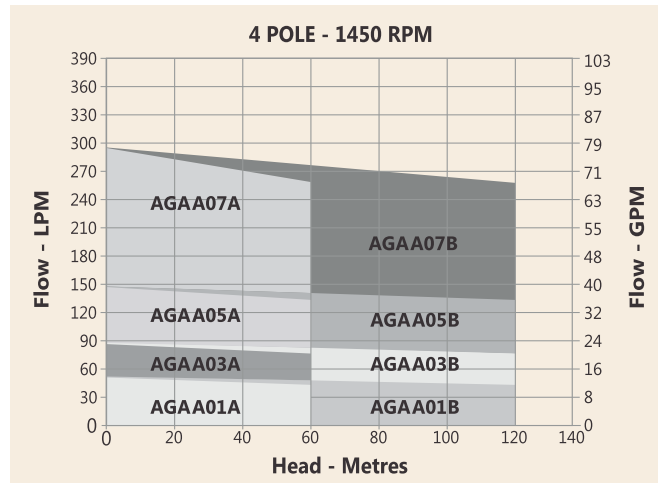
Package includes Pump, Drive, Clutch, Belt & Pulley
Drive options are Diesel Engine, Petrol Engine or Electric Motor

PERFORMANCE CURVES

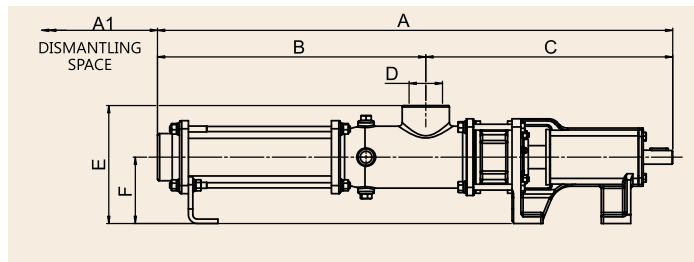
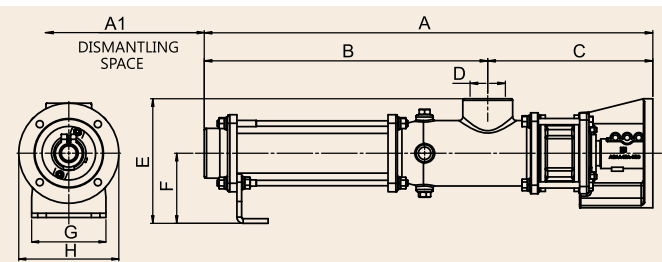
CLOSE COUPLED



AGAA SERIES PRE-SELECTION CURVE



DIMENSIONAL DETAILS



CLOSE COUPLED SERIES

| MODEL | A | A1 | B | C | D | E | F | G | H | Shaft Dia. |
|---------|-----|-----|-----|-----|----|-----|-----|-----|-----|------------|
| AGCA01A | 455 | 180 | 266 | 189 | 40 | 135 | 80 | 104 | 120 | 19 |
| AGCA01B | 641 | 320 | 429 | 212 | 40 | 160 | 90 | 104 | 140 | 24 |
| AGCA03A | 576 | 240 | 364 | 212 | 40 | 160 | 90 | 104 | 140 | 24 |
| AGCA03B | 766 | 430 | 544 | 222 | 40 | 170 | 100 | 104 | 160 | 28 |
| AGCA05A | 595 | 210 | 344 | 251 | 50 | 180 | 100 | 104 | 160 | 28 |
| AGCA07A | 737 | 350 | 486 | 251 | 50 | 192 | 112 | 115 | 160 | 28 |

BARESHAF SERIES

| MODEL | A | A1 | B | C | D | E | F | Shaft Dia. |
|---------|------|-----|-----|-----|----|-----|-----|------------|
| AGAA01A | 578 | 180 | 266 | 312 | 40 | 135 | 80 | 19 |
| AGAA01B | 764 | 320 | 429 | 335 | 40 | 160 | 90 | 19 |
| AGAA03A | 699 | 240 | 364 | 335 | 40 | 160 | 90 | 19 |
| AGAA03B | 879 | 430 | 544 | 335 | 40 | 160 | 90 | 19 |
| AGAA05A | 708 | 210 | 344 | 364 | 50 | 170 | 90 | 19 |
| AGAA05B | 868 | 400 | 504 | 364 | 50 | 170 | 90 | 19 |
| AGAA07A | 850 | 350 | 486 | 364 | 50 | 170 | 90 | 19 |
| AGAA07B | 1103 | 550 | 684 | 419 | 50 | 197 | 112 | 22 |

All dimensions are in mm

NEW AND IMPROVED DC RANGE

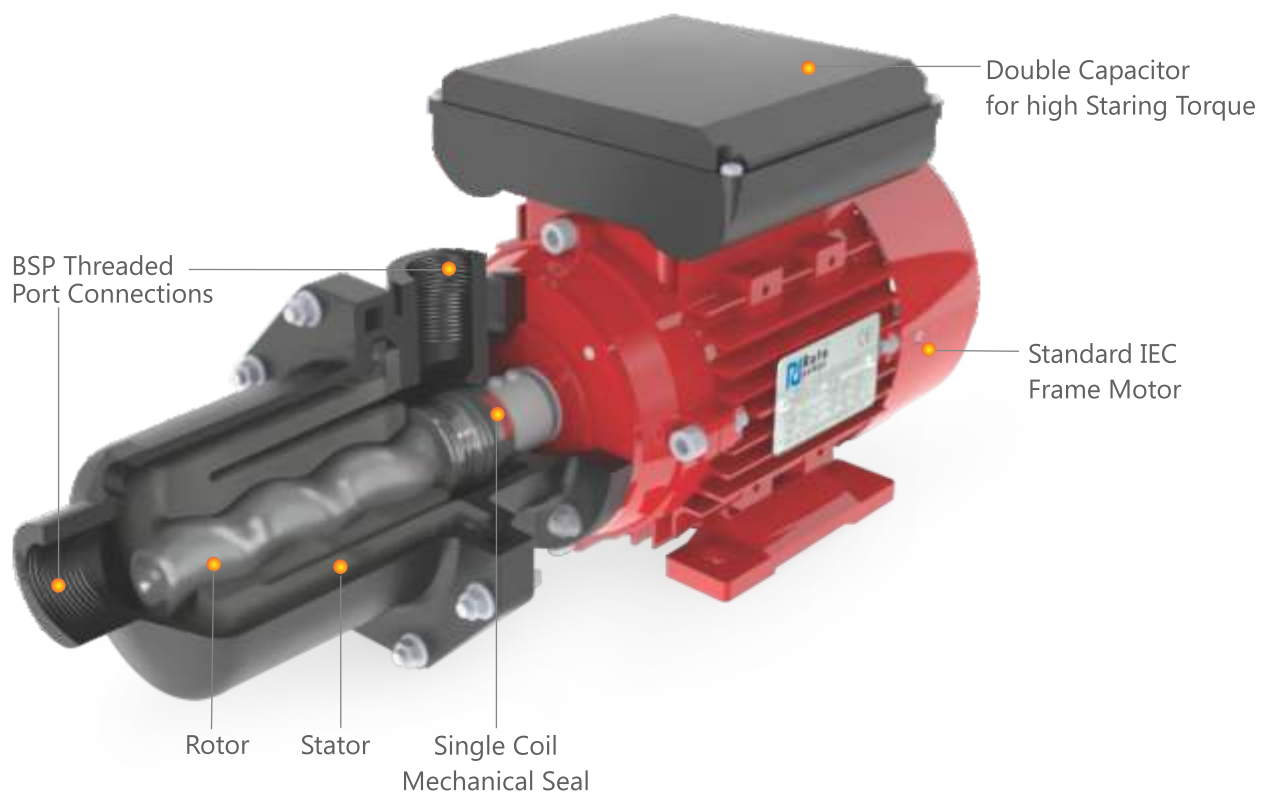
Roto's range of general purpose pumps have been developed for high pressure applications without sacrificing the flow rates.

FEATURES

- Pressure upto 60 m*
- Low shear and linear flow
- Excellent suction lift capabilities
- Can handle liquid with fine solids
- Can handle liquid with varying viscosity
- Flow is directly proportional to the speed
- Minimum impact on efficiencies with varying heads

PERFORMANCE SUMMARY

| | |
|-----------------|--------------|
| Capacity | upto 115 LPM |
| Head | upto 60 m |



TYPICAL APPLICATIONS

- Feeding ponds and sprinkler systems
- Automatic water pressure systems
- Hosing down of cattle and stock sheds
- Drawing water from wells, creeks or shallow bores
- Drainage of septic tanks
- Feeding to oily water separators
- Transfer and dosing of chemicals and alkalies
- Transfer duties in food processing, winery and vegetable oils
- Brine injection
- Diesel transfer
- Handling surfactants and detergents

*only for selected sizes

MATERIAL OPTIONS

- Ultraviolet resistant acetal co-polymer housing for pump sizes DC 012, 022 & 032
- Cast iron housing parts for pump sizes DC 041 & 051
- Stainless steel hardware
- Stator options
 - Nitrile
 - Natural
 - High Nitrile
 - Fluoroelastomer
 - EPDM
 - Chlorosulphonated Rubber



PERFORMANCE SUMMARY

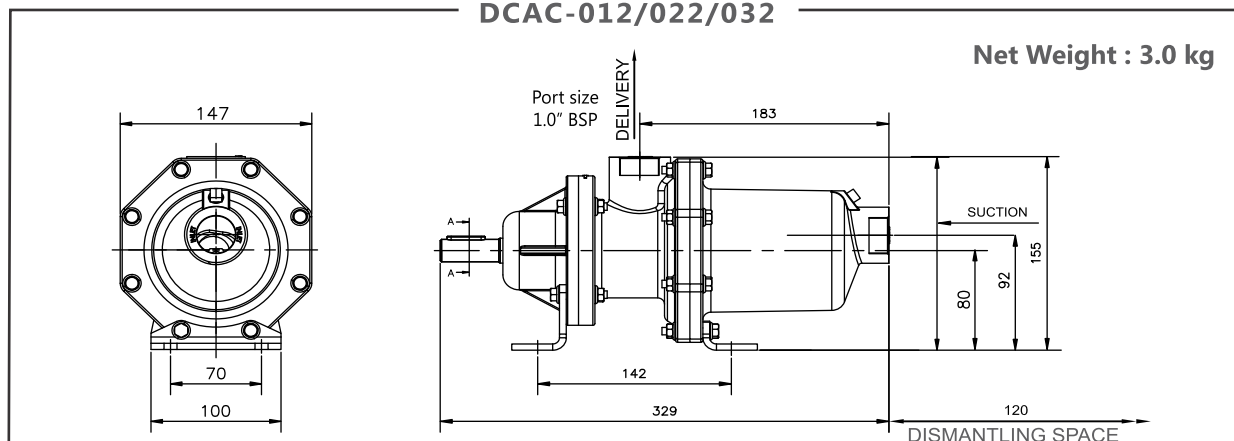
| Pump Size | Capacity (LPM)* | Pressure (m) | Max. Suction Lift (m) | Speed (RPM) | Motor Rating (kW) | Frame Size |
|---------------|-----------------|--------------|-----------------------|-------------|-------------------|------------|
| DC-012 | 9.9 | 60 | 7.5 | 1450 | 0.37 | 80 |
| DC-022 | 13.7 | 60 | 6.5 | 1450 | 0.55 | 80 |
| DC-032 | 19.5 | 40 | 6.5 | 1450 | 0.55 | 80 |
| DC-041 | 54.8 | 30 | 5.5 | 1450 | 0.75 | 90 |
| DC-051 | 97.8 | 30 | 4.5 | 1450 | 1.10 | 90 |

*At maximum pressure

DIMENSIONAL DETAILS

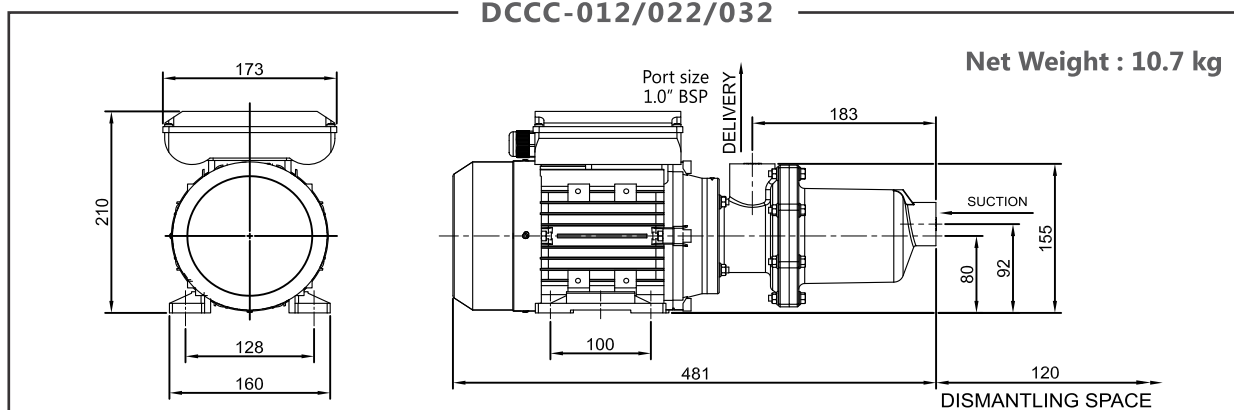
DCAC-012/022/032

Net Weight : 3.0 kg



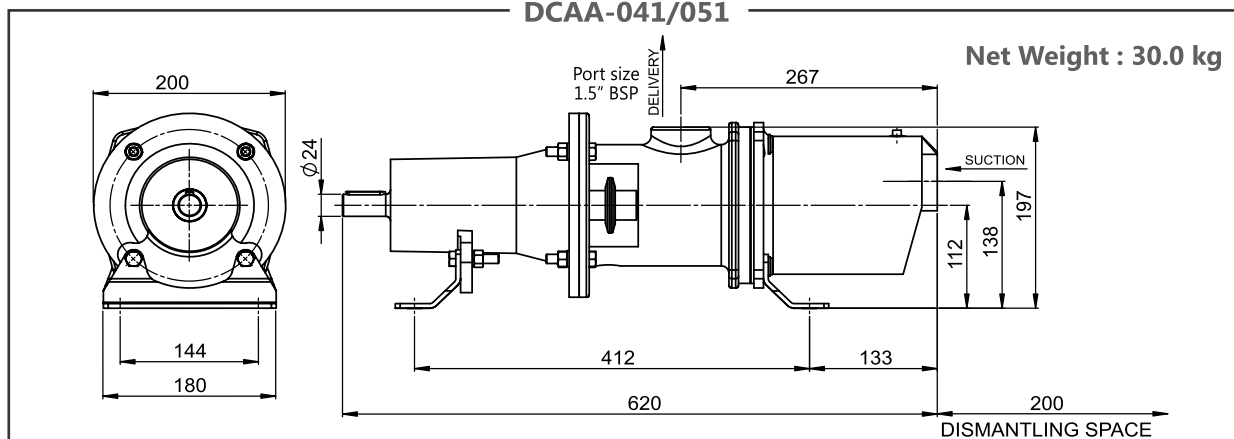
DCCC-012/022/032

Net Weight : 10.7 kg



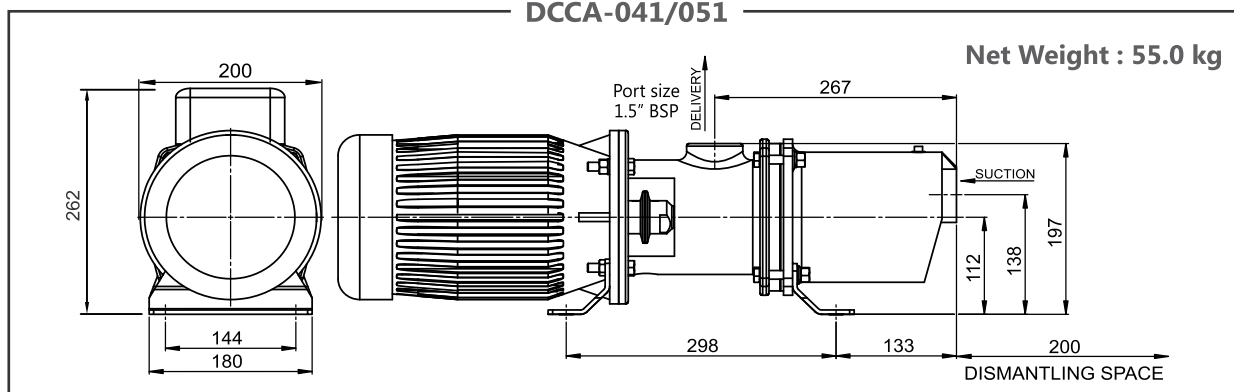
DCAA-041/051

Net Weight : 30.0 kg



DCCA-041/051

Net Weight : 55.0 kg



HEAVY DUTY & ROBUST PUMPS

PERFORMANCE SUMMARY

| | |
|----------|---------------|
| Capacity | upto 2100 LPM |
| Head | upto 240 m |

1 OPTIMISED ROTOR-STATOR GEOMETRY

Improved Rotor-Stator geometry minimises wear due to lower rubbing velocities as compared to conventional geometry, particularly useful in abrasive applications

2 TAPERED ENTRY STATOR

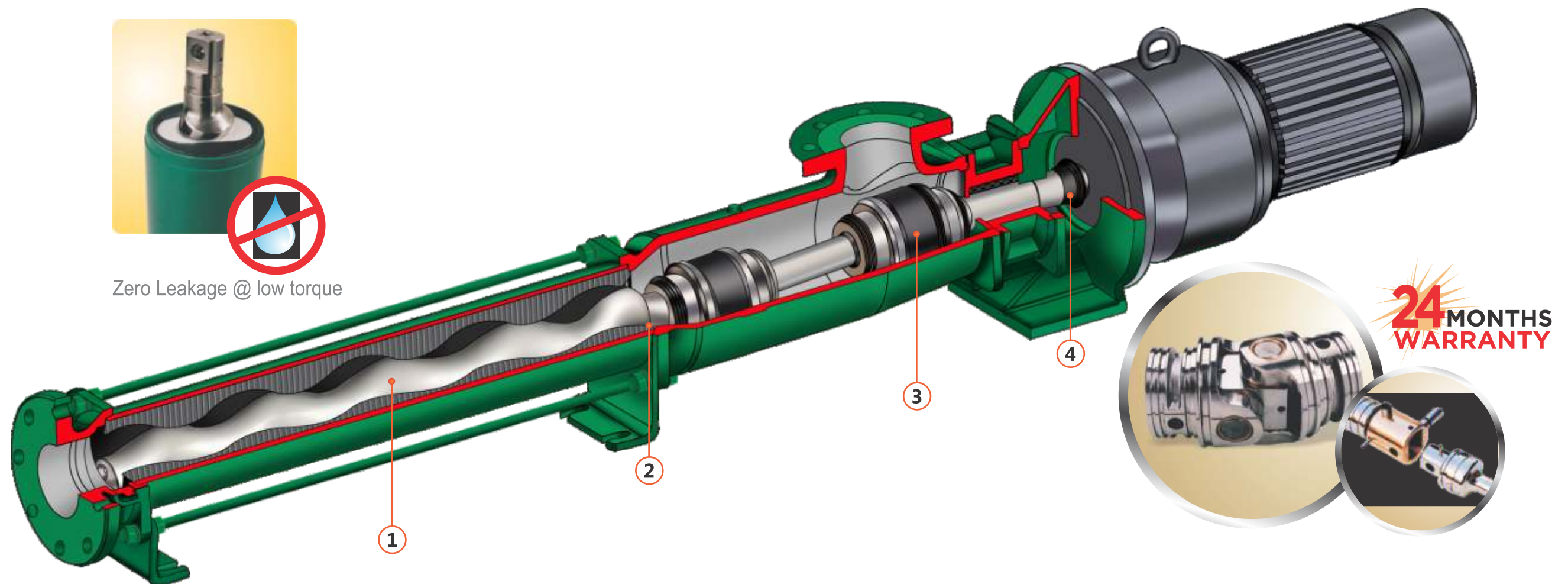
Facilitates easier entry for fluid
Improves suction capability

3 CARDAN UNIVERSAL JOINT

The Cardan type universal joint used in this pump is acknowledged to be far superior to the conventional gear joint or single pin & bush joint which is subjected to extreme concentrated loads, resulting in high wear rates

4 CLOSE COUPLED

Motor lantern is designed to accommodate various construction of drives, reduces the overall length and leads to ease of maintenance



FEATURES

- Low NPSHR ensures excellent suction lift capability
- Non-Clogging can easily handle entrained air or solids
- Lower operating speed ensures less wear and longer life in abrasive applications
- Roto Pumps are self-priming pumps and are shore mounted - eliminating the need for dangerous floating pontoons or walkways
- Uniform steady flow with little to no pulsation
- Flow is proportionate to speed which can help to achieve variable capacities as per application requirement
- Constant flow rates regardless of varying pressures- application rates are kept constant
- Achieves required pressure independent of speed
- Reversible, can be operated in either direction depending on installation - can be used for load out and filling

MATERIAL OPTIONS

| | |
|-------------------------------|---|
| Wettable Housing Parts | : Cast Iron, Cast Steel, Cast Stainless Steel, Fabricated Steel and Stainless Steel |
| Rotor | : Case Hardened Steel, Alloy Steel HCP, Stainless Steel UP/HCP |
| Stator | : Natural, Nitrile, High Nitrile, EPDM, Chloro Sulphonated Rubber, Fluoroelastomer |
| Coupling Rod | : Alloy Steel, Stainless Steel |
| Shaft | : Alloy Steel HCP, Stainless Steel UP/HCP, Shaft Sleeve Optional |

Legend
HCP: Hard Chrome Plated UP: Unplated

OPTIONAL EXTRAS

- Dry run protection
- Visual and audible alarm
- High & low pressure cut-out
- Motor overload protection

APPLICATIONS

- Dairy effluent pumping
- Green water pumping
- Raw effluent pumping
- Animal effluent pumping
- Dirty water with sand, silt and algae
- Molasses transfer

ANIMAL EFFLUENT

Applications of positive displacement pumps in animal effluent is a key segment of the agricultural market and it is becoming increasingly demanding, Roto pumps offer heavy duty solutions for the transfer and process of dairy shed effluent.

For those applications, pump capacity needs to remain relatively constant over varying discharge pressures, Roto's range of progressive pumps are the ideal choice for such applications.

Significantly low power requirement compared to centrifugal pumps used on dairy effluent systems, reducing power rating from 15kW motor to 5.5kW motor on same applications.

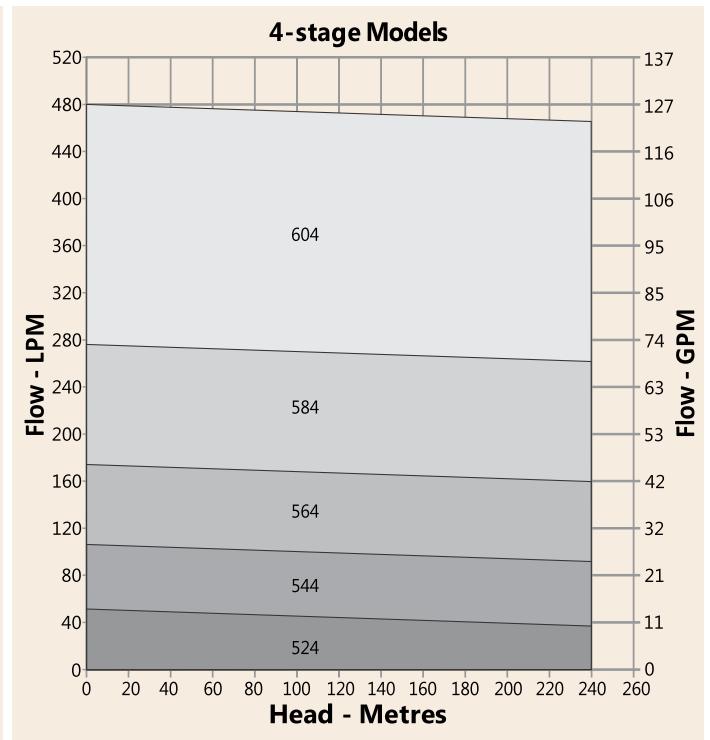
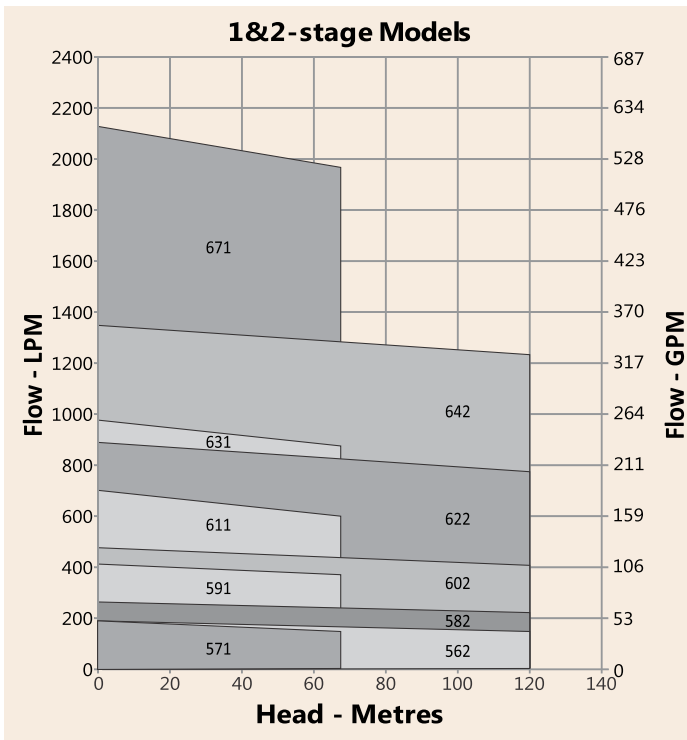
MOLASSES

Molasses and molasses based supplements for stock feed have been used in agricultural market for many years with a wide variety of additives and vitamins carefully blended and added to meet specific recipes. Materials such as grain, crushed peanut shell and a variety of natural oils have been incorporated at various times along with fluid medications.

These products normally have various viscosities, used at different temperatures, have different degrees of abrasiveness and need to be handled carefully so as not to destroy consistency. Roto's range of pumps are the perfect option for such applications.

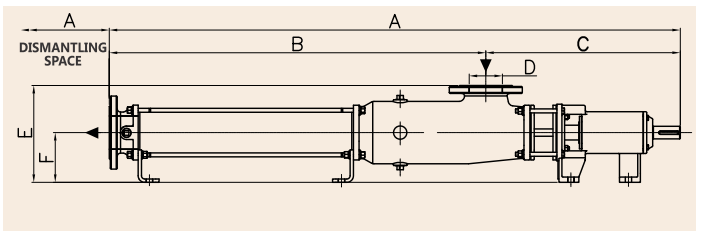
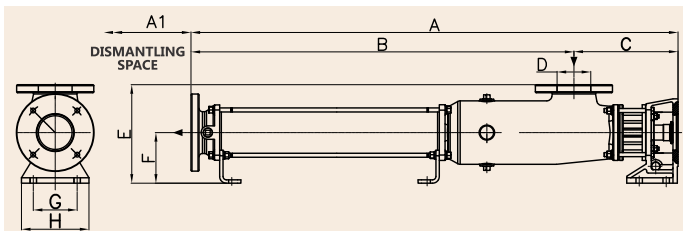


PERFORMANCE CURVES



*Higher Capacity and Higher Head available on request

DIMENSIONAL DETAILS



CLOSE COUPLED SERIES

| MODEL | A | A1 | B | C | D | E | F | G | H |
|---------|------|------|------|-----|-----|-----|-----|-----|-----|
| RLCB571 | 897 | 450 | 649 | 248 | 65 | 212 | 112 | 85 | 115 |
| RLCB591 | 1147 | 720 | 902 | 245 | 80 | 262 | 130 | 83 | 120 |
| RLCB611 | 1477 | 750 | 1202 | 275 | 100 | 272 | 130 | 83 | 120 |
| RLCB631 | 1530 | 850 | 1255 | 275 | 100 | 272 | 130 | 83 | 120 |
| RLCB671 | 1880 | 950 | 1521 | 359 | 125 | 330 | 150 | 100 | 150 |
| RMCB562 | 1189 | 600 | 939 | 250 | 65 | 255 | 130 | 83 | 120 |
| RMCB582 | 1444 | 670 | 1135 | 309 | 100 | 292 | 150 | 100 | 150 |
| RMCB602 | 1570 | 810 | 1261 | 309 | 100 | 292 | 150 | 100 | 150 |
| RMCB622 | 1978 | 1000 | 1595 | 383 | 125 | 370 | 190 | 130 | 200 |
| RMCB642 | 2132 | 1160 | 1749 | 383 | 125 | 370 | 190 | 130 | 200 |
| RMCB524 | 1277 | 670 | 1027 | 250 | 65 | 255 | 130 | 83 | 120 |
| RMCB544 | 1781 | 1000 | 1472 | 309 | 100 | 292 | 150 | 100 | 150 |
| RMCB564 | 1954 | 1200 | 1645 | 309 | 100 | 292 | 150 | 100 | 150 |
| RMCB584 | 2118 | 1350 | 1809 | 309 | 100 | 292 | 150 | 100 | 150 |
| RMCB604 | 2483 | 1625 | 2138 | 345 | 100 | 365 | 190 | 130 | 200 |

BARE SHAFT SERIES

| MODEL | A | A1 | B | C | D | E | F | Shaft Dia. |
|---------|------|------|------|-----|-----|-----|-----|------------|
| RLAB571 | 1068 | 450 | 649 | 419 | 65 | 212 | 112 | 22 |
| RLAB591 | 1319 | 720 | 902 | 417 | 80 | 262 | 130 | 24 |
| RLAB611 | 1680 | 750 | 1202 | 478 | 100 | 272 | 130 | 28 |
| RLAB631 | 1733 | 850 | 1255 | 478 | 100 | 272 | 130 | 28 |
| RLAB671 | 2158 | 950 | 1521 | 637 | 125 | 330 | 150 | 38 |
| RMAB562 | 1392 | 600 | 939 | 453 | 65 | 255 | 130 | 28 |
| RMAB582 | 1721 | 670 | 1135 | 586 | 100 | 292 | 150 | 38 |
| RMAB602 | 1847 | 810 | 1261 | 586 | 100 | 292 | 150 | 38 |
| RMAB622 | 2291 | 1000 | 1595 | 696 | 125 | 370 | 190 | 48 |
| RMAB642 | 2445 | 1160 | 1749 | 696 | 125 | 370 | 190 | 48 |
| RMAB524 | 1480 | 670 | 1027 | 453 | 65 | 255 | 130 | 48 |
| RMAB544 | 2058 | 1000 | 1472 | 586 | 100 | 292 | 150 | 28 |
| RMAB564 | 2231 | 1200 | 1645 | 586 | 100 | 292 | 150 | 38 |
| RMAB584 | 2395 | 1350 | 1809 | 586 | 100 | 292 | 150 | 38 |
| RMAB604 | 2898 | 1625 | 2202 | 696 | 100 | 370 | 190 | 38 |

Note:- Lantern variety and Shaft dimensions of close coupled models are available on request.

All dimensions are in mm



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