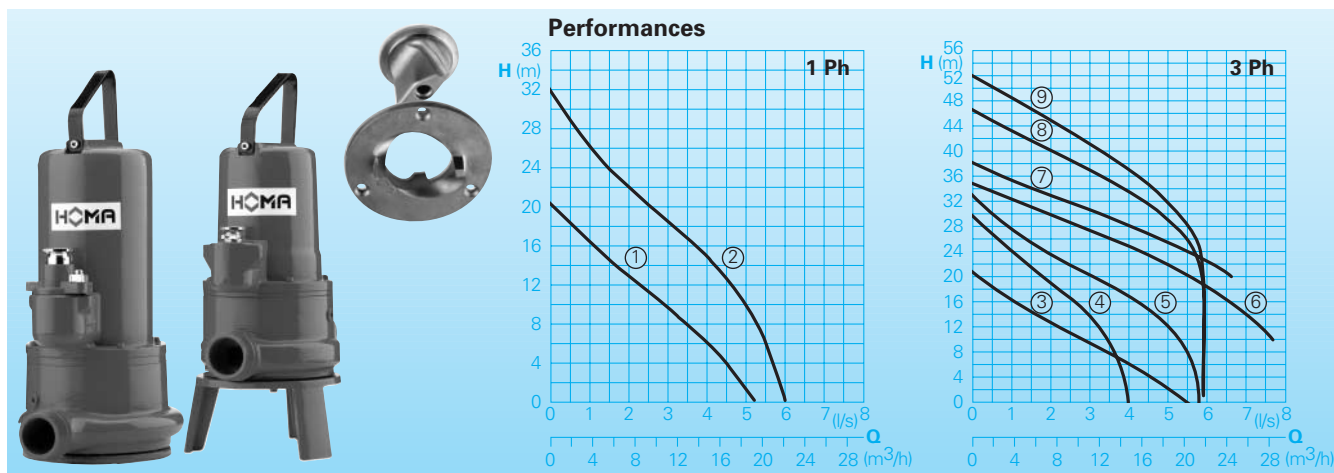


Electric submersible pumps with cutter system for sewage and effluent.

Barracuda GRP 16-50



Application

The installation of conventional sewer systems in areas of low population like small villages, farms or under difficult topographic conditions is often extremely expensive, mainly because of the high cost for large diameter pipework installation. HOMA provides the perfect, economical alternative with Barracuda grinder pump pressure sewage systems. The Barracuda pumps cut all solids present in the sewage into small particles. This allows the use of pipes from 1 1/2" diameter, which can be easily laid at low cost with a minimum of construction work.

DIN EN 12050-1: Conformity and design approved and controlled by LGA, certificate No. 0220119.

Installation: Transportable or permanent. Models with float switch control for automatic pump operation, depending on medium level in the sump.

Pumped medium: Waste water or sewage containing soft solids. Max. medium temperature: 35°C, short term up to 60°C.

Operation: Intermittent.

Design

Fully submersible, compact integrated motor-pump consisting of:

Pump: Single stage centrifugal pump with horizontal discharge BSP 2" M.

Impeller/Cutter: Open multi-channel impeller. Cutter system at pump inlet consisting of stationary cutter ring and blade rotor.

Technical Data

| Curve No. | Pump type | Motor input P ₁ (kW) | Motor output P ₂ (kW) | Voltage 50 Hz (V) | Speed (rpm) | Nominal current (A) | Weight (kg) |
|-----------|-----------------------|---------------------------------|----------------------------------|-------------------|-------------|---------------------|-------------|
| ① | GRP 16 (B) W (A) (Ex) | 1,5 | 1,1 | 230/1ph | 2900 | 7,5 | 27 |
| ② | GRP 26 W (A) (Ex) | 2,5 | 1,8 | 230/1ph | 2900 | 11,5 | 33 |
| ③ | GRP 16 (B) D (A) (Ex) | 1,3 | 0,9 | 400/3ph | 2900 | 2,5 | 27 |
| ④ | GRP 22 D (A) (Ex) | 2,1 | 1,7 | 400/3ph | 2900 | 4,2 | 33 |
| ⑤ | GRP 26 D (A) (Ex) | 2,5 | 1,9 | 400/3ph | 2900 | 4,4 | 33 |
| ⑥ | GRP 36 D (A) (Ex) | 3,7 | 3,1 | 400/3ph | 2900 | 6,4 | 44 |
| ⑦ | GRP 36 HD (A) (Ex) | 3,7 | 3,1 | 400 / 3ph | 2900 | 6,4 | 44 |
| ⑧ | GRP 44 D (Ex) | 4,4 | 3,7 | 400 / 3ph | 2840 | 7,5 | 56 |
| ⑨ | GRP 50 D (Ex) | 5,2 | 4,4 | 400 / 3ph | 2840 | 8,7 | 56 |

Discharge: BSP 2" M

Model GRP 16 B: With base stand
Model A: With automatic level control
Model Ex: explosion proof


Motor: Fully submersible, pressure-tight electric motor, single or three phase. Thermal sensors embedded in stator winding. Insulation class F, degree of protection IP 68.

Motor start: GRP 16-36 direct start
GRP 44-50 star delta start

Cable:
GRP 16 - 36 (EX) H07RN-F(PLUS)7G1,5
GRP 44 - 50 (EX) H07RN-F(PLUS)10G1,5

Shaft/Bearing: Large diameter stainless steel rotor shaft, heavy duty pre-lubricated bearings.

Seals: GRP 16 with combination of mechanical seal (silicon-carbide/silicon-carbide) and lip seal in oil chamber. Models from GRP 22 with two mechanical seals (silicon-carbide/silicon-carbide) in oil chamber, oil inspection from outside. Seal condition monitoring probe on request.

Explosion protection: All Models available with explosion proof motors according to  II 2G EEx d [ib] II BT4.

Materials:

| | |
|---------------------------------------|------------------------|
| Motor housing, pump housing, impeller | Cast iron GG25 |
| Cutter system | Stainless steel 1.4122 |
| Rotor shaft, screws | Stainless steel |
| Mechanical seal | Silicon-carbide |
| O-rings | NBR |

Equipment supplied

Model W: (230-240 V / 1 Ph): 10 m of cable. Attention: The pump requires a capacitor for operation, which is integrated in the control box (see accessories).

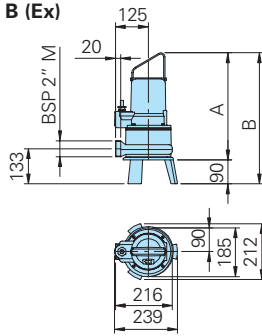
Model D: (400-415 V/3 Ph): 10 m of cable.

Model A: With additional automatic level control, with AS float switch, control box with overload protection, manual-auto-switch, and 10 m of cable. **Model W** with integrated capacitor. **Model Ex** with intrinsically safe relay.

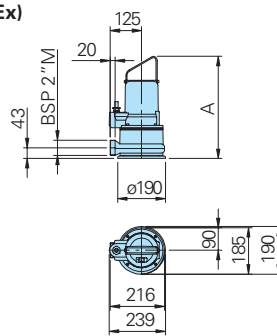
Model GRP 16 B: With mounted base stand.

Installations and dimensions

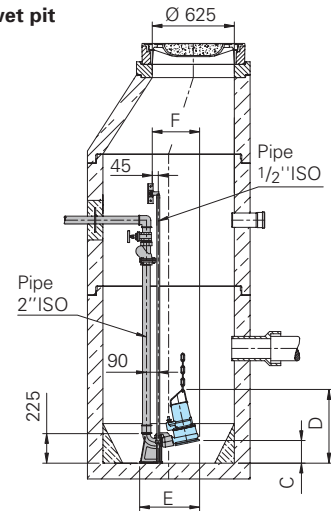
Free standing pump with ringbase stand GRP 16 B (Ex)



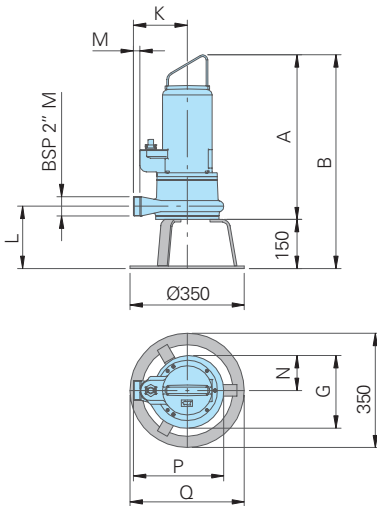
GRP 16 (Ex)



Permanent wet pit installation

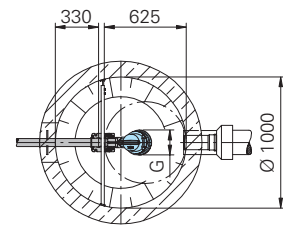
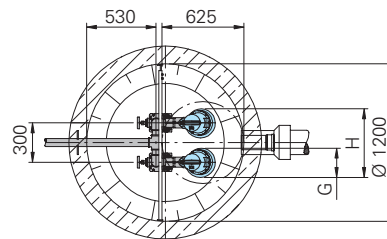


GRP 22-50 (Ex)



Wet well installation with auto-coupling system.

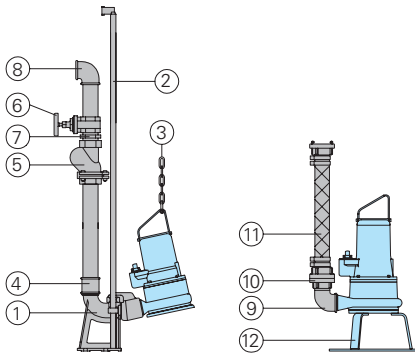
Permanent installation utilising a submerged auto-coupling guide rail system for automatic connection and disconnection of the pump from the pipework from outside the sump. Applicable for single and multi pump stations. Advantages: Little space requirement, easy pump service and maintenance.



| Dim. for Pump type | A | B | C | D | E | F | G | H | K | L | M | N | P | Q |
|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|
| GRP 16 (B)(Ex) | 406 | 496 | 172 | 560 | 457 | 360 | 190 | 490 | | | | | | |
| GRP 22 (Ex), 26 (Ex) | 468 | 618 | 183 | 630 | 504 | 407 | 223 | 523 | 165 | 191 | 20 | 107 | 277 | 350 |
| GRP 36 (HD) (Ex) | 505 | 655 | 183 | 672 | 504 | 407 | 223 | 523 | 165 | 191 | 20 | 107 | 277 | 350 |
| GRP 44 (Ex), 50 (Ex) | 545 | 695 | 187 | 706 | 527 | 429 | 250 | 550 | 180 | 193 | 25 | 119 | 304 | 355 |

all dimensions in mm

Accessories



| Part Description | Dimension | Part No. |
|--|---------------|----------|
| ① Cast iron auto-coupling system with auto-coupling with flange, flanged pump coupling and upper slide rail bracket BSP 1/2" Type KK50S/R 2" | DN50/BSP 2" F | 8604008 |
| ② Guide rails, pair, per m | | |
| Galvanized steel | BSP 1/2" | 2190085 |
| Stainless steel | BSP 1/2" | 2190250 |

| Part Description | Dimension | Part No. | Part Description | Dimension | Part No. |
|--------------------------------------|-------------------------|----------|--|-----------------|------------|
| ③ Lifting chain | | | ⑩ Reinforced hose, per m (inner dia.) | 38 mm dia. | 2632038 |
| Galvanized steel | 5 mm dia. | 2800350 | | 50 mm dia. | 2632050 |
| Stainless steel | 5 mm dia. | 2800353 | STORZ-hose coupling with spigot | C-38 dia. | 2013002 |
| Shackle | | | C-52 dia. | | 2013003 |
| Galvanized steel for chain 5 mm dia. | | 2801450 | Brass STA-hose coupling | BSP 1 1/2" M | 2001513 |
| Stainless steel for chain 5 mm dia. | | 2801390 | Hose band | 1 1/2" | 2304854 |
| ④ Galvanized socket | BSP 2" F | 2109102 | | 2" | 2306009 |
| | BSP 2" F x BSP 1 1/2" F | 2109210 | Synthetic pressure hose with rubber lining and couplings, C-52 mm dia. | length 10 m | 2611310 |
| ⑤ Cast iron swing check valve | BSP 1 1/2" F | 2212902 | | length 15 m | 2611315 |
| | BSP 2" F | 2212903 | | length 20 m | 2611320 |
| ⑥ Bronze gate valve | BSP 1 1/2" F | 2216015 | | length 30 m | 2611330 |
| | BSP 2" F | 2216020 | ⑪ Ring base stand for GRP 22, GRP 26 and GRP 36 | | 7321445 |
| ⑦ Galvanized double nipple | BSP 1 1/2" M | 2009020 | | GRP 44, | |
| | BSP 2" M | 2009018 | | GRP 50 | 7324535 |
| ⑧ 90° galvanized elbow | BSP 1 1/2" F | 2113605 | Control box for pumps without level control, with overload protection, on-off switch | | |
| | BSP 2" F | 2213606 | - for 1Ph-pumps (incl. capacitor) | | |
| T-piece for twin pump arrangement | BSP 1 1/2" F | 2114302 | GRP 16 W | | 1920210 |
| | BSP 2" F | 2114306 | GRP 26 W | | 1912231 |
| ⑨ 90° galvanized elbow | BSP 1 1/2" F/M | 2111505 | - for 3Ph-pumps | Nominal current | |
| | BSP 2" F | 2112605 | GRP 16 - 36: | 2,5 - 4,0 A | 1926220 |
| | x BSP 1 1/2" F | 2112605 | | 4,1 - 6,0 A | 1926225 |
| | BSP 2" F/M | 2111506 | | 6,1 - 8,0 A | 1926230 |
| ⑩ STORZ-fixed coupling | C-BSP 1 1/2" M | 2010003 | GRP 44 - 50: | | on request |
| | C-BSP 2" F | 2010204 | Control panel for single or twin pump stations for automatic operation | | on request |

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Electric submersible pumps with cutter system for sewage and effluent.

Barracuda GRP 56 – 111

Application

The installation of conventional sewer systems in areas of low population like small villages, farms or under difficult topographic conditions is often extremely expensive, mainly because of the high cost for large diameter pipework installation. HOMA provides the perfect, economical alternative with Barracuda grinder pump pressure sewage systems. The Barracuda pumps cut all solids present in the sewage into small particles. This allows the use of pipes from 50 mm diameter, which can be easily laid at low cost with a minimum of construction work.

The range of GRP 56–111 models offer unique hydraulic performance, combined with high efficiency and a supreme quality standard. These pumps are applied wherever extreme high head pumping capability up to 7 bar is required.

DIN EN 12050-1: Conformity and design approved and controlled by LGA, certificate No. 0220119.

Pumped medium: Waste water or sewage containing soft solids. Max. medium temperature: 35°C, short term up to 60°C.

Operation: Intermittent.

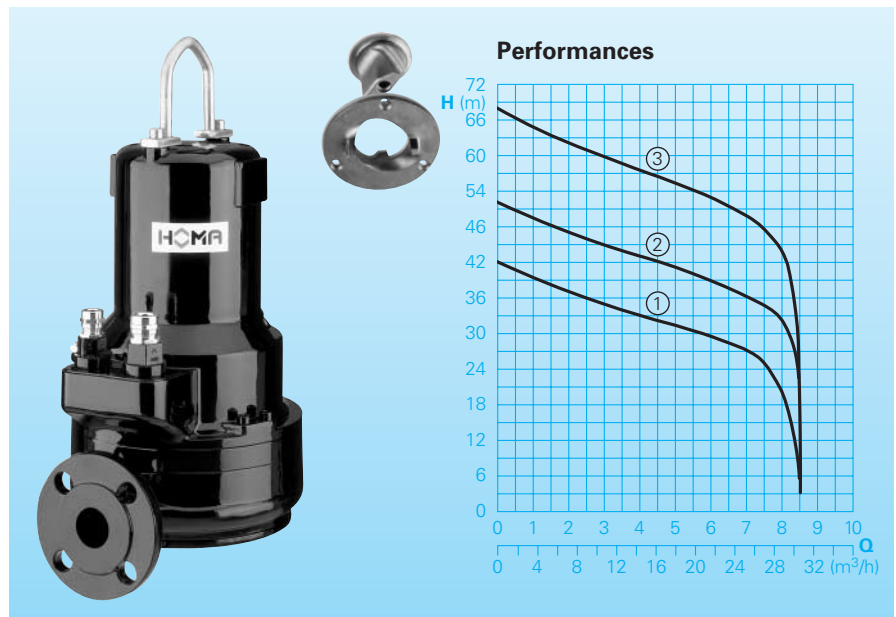
Design

Fully submersible, compact integrated motor-pump consisting of:

Pump: Single stage centrifugal pump with horizontal discharge DN 50.

Impeller: Open multi-channel impeller. Cutter system at pump inlet consisting of stationary cutter ring and blade rotor from hardened (45 rockwell C scale minimum) high alloy stainless steel.

Motor: Fully submersible, pressure-tight electric motor, three phase, oil-filled. Thermal sensors embedded in stator winding. Insulation class F. Degree of motor protection IP 68. Cable connection chamber totally isolated from motor housing.



Technical Data

| Curve No. | Pump type | Motor input P ₁ (kW) | Motor output P ₂ (kW) | Voltage 50 Hz (V) | Speed (rpm) | Nominal current (A) | Weight (kg) Stand. mod. | Weight (kg) Ex mod. |
|-----------|------------------|---------------------------------|----------------------------------|-------------------|-------------|---------------------|-------------------------|---------------------|
| ① | GRP 56 (U)D(Ex) | 7,5 | 6,4 | 400-415/3Ph | 2900 | 13,0 | 104 | 108 |
| ② | GRP 76 (U)D(Ex) | 7,5 | 6,4 | 400-415/3Ph | 2900 | 13,0 | 104 | 108 |
| ③ | GRP 111 (U)D(Ex) | 11,0 | 9,5 | 400-415/3Ph | 2900 | 18,8 | 107 | 111 |

Discharge: DN 50

Cable length: 10 m

Other voltages are available upon request

Model U: With cooling jacket

Model Ex: Explosion proof

Cable: H07RN-F7G1,5 and 5G 1,5

Model Ex: H07RN - F-PLUS 10G1,5 and 4G1,5.

Shaft/Bearing: Large diameter stainless steel rotor shaft, pre-lubricated bearings.

Seals: Combination of mechanical seals (silicon-carbide) in a separate oil-chamber. Oil inspection from outside. Electronic seal probe fitted into the oil chamber.

Motorjacket: All models available with jacket cooling for drywell installation or not fully submerged operation.

Explosion protection: All models available with explosion proof motors according to Ⓢ II 2 G EEx de [ib] IIBT4.

Materials:

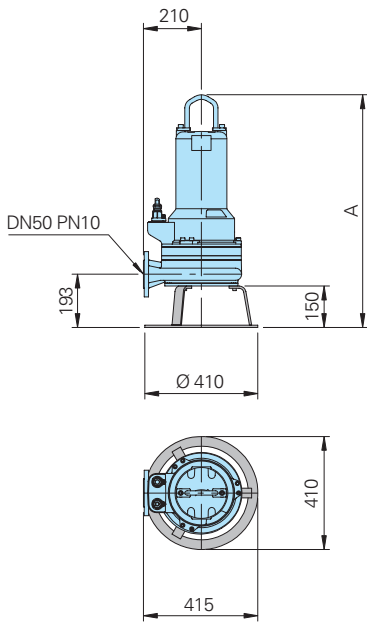
| | |
|---|---------------------------------|
| Pump housing, impeller, motor housing | Cast iron GG25 |
| Cutter system | High alloy stainless steel |
| Mechanical seals | Silicon-carbide/silicon-carbide |
| Rotor shaft, screws, cooling jacket (U) | Stainless steel |
| Seal kit | NBR |

Equipment supplied

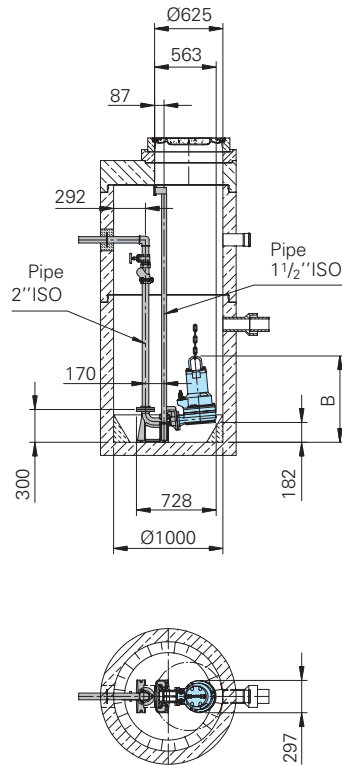
Pump with 10 m of cable.

Installations and Dimensions

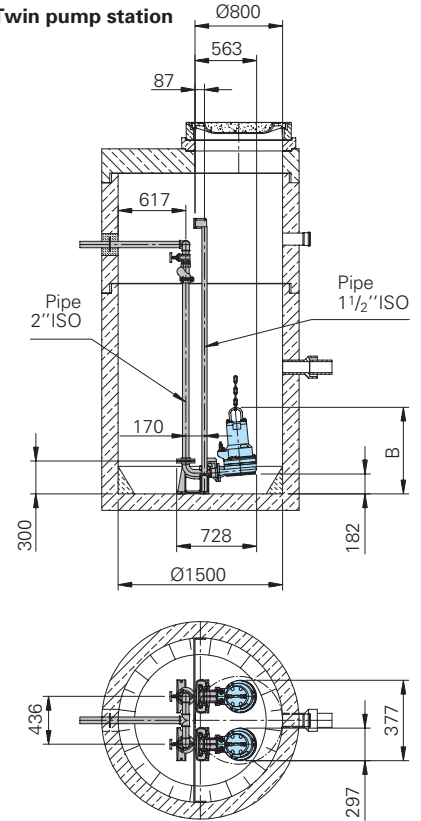
Free standing pump with ringbase stand
GRP 56 - GRP 111 (U) D (ex)



Permanent sump installation
Single pump station



Twin pump station

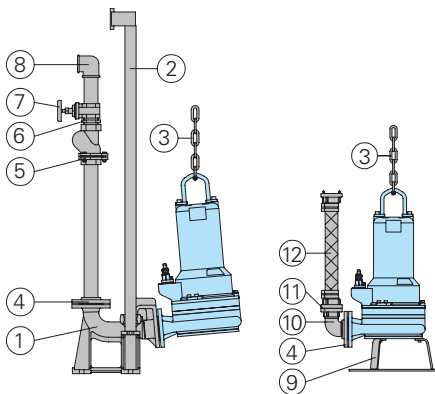


Wet well installation with auto-coupling system

Permanent installation utilizing a submerged auto-coupling guide rail system for automatic connection and disconnection of the pump from the pipework from outside the sump. Applicable for single and multi pump stations.
Advantages: Little space requirement, easy pump service and maintenance.

| Type | A |
|---------|-----|
| GRP 56 | 790 |
| GRP 76 | 790 |
| GRP 111 | 862 |

Accessories



| Part Description | Dimension | Part No. |
|---|--------------------|----------|
| ① Cast iron auto-coupling system with flanged pump coupling and upper slide rail bracket BSP 1 1/2" type KK 50/50 | DN 50/ DN 50 | 8604012 |
| ② Galvanized steel guide rails, pair, per m | BSP 1 1/2" | 2190155 |
| ③ Galvanized steel lifting chain | 8 mm Ø | 2800380 |
| Galvanized steel shackle | Size 1 | 2801380 |
| ④ Threaded flange | DN 50/ BSP 2" F | 2215050 |
| ⑤ Cast iron swing check valve | BSP 2" F | 2212903 |
| ⑥ Galvanized double nipple | BSP 2" M | 2009018 |
| ⑦ Cast iron gate valve | BSP 2" F | 2216050 |

| Part Description | Dimension | Part No. |
|--|------------------------------|--|
| ⑧ 90° galvanized elbow | BSP 2" F | 2113606 |
| T-piece for twin pump operation | BSP 2" F | 2114306 |
| ⑨ Ring base stand | | 7321465 |
| ⑩ 90° galvanized elbow | BSP 2" M/F | 2111506 |
| ⑪ STORZ-fixed coupling | C- BSP 2" M | 2010203 |
| ⑫ Reinforced hose, per m (inner dia.) | 50 mm Ø | 2632050 |
| STORZ-hose coupling with spigot | C-52 mm Ø | 2013003 |
| Hose band | 2" | 2306009 |
| Synthetic pressure hose with rubber lining and couplings, C-52 mm dia. | 10 m 15 m 20 m 30 m | 2611310 2611315 2611320 2611330 |
| ○ Control panel for single or twin pump stations for automatic operation | | On request |

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