



Breaker Boom X22-Series



Normet reserves the right to change
this specification without further notice

Pictures may include options and additional equipment.

INTRODUCTION

Xrock X22-Series of breaker boom is a very light weight system designed for tight spaced operations. The boom controls and range of motion ensures a flexible positioning of the pedestal especially in portable and track mounted crusher units. The X22-Series consists of three different models from 2.9 m horizontal reach up to 3.5 m.

Xrock X22-Series booms are designed to carry hydraulic breakers from 200 kg to 600 kg and especially tailored for Normet Xrock XB breakers. The system is powered by Normet Xrock Hydraulic power units which are streamlined to fit for the Normet Xrock breaker and the boom.



SLEW RING BOOM WITH 360 DEGREE ROTATION

X22-290R is a 360 deg slew ring boom. The pedestal diameter is optimized with minimal footprint. The 360 deg rotation gives freedom to design suitable boom positions for operation, park and transportation.



POWER UNITS

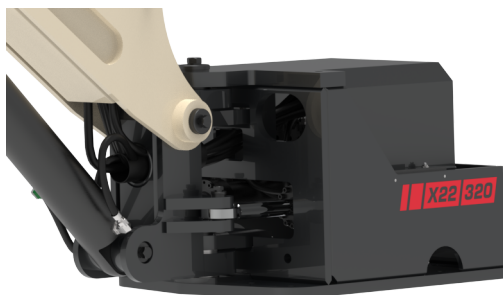
All Normet Xrock power units offer a streamlined power resource for breaker booms and breakers to maximize the performance. The Power units are modular systems with wide access points for service. Power unit motor control panels are PLC controlled. All electric connections and panels are IP65 rated.

Power units have minimum 110 % capacity integrated trip drays for hydraulic oil to meet environmental regulations and avoid oil leakages. The system can be equipped with an automatic fire extinguisher.



CYLINDER SLEW WITH ROBUST PEDESTAL

X22-320 and X22-350 booms are cylinder slew type systems. The cylinder slew is maintenance friendly with high boom torque capacity.



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RELIABLE CONTROL SYSTEM AND ELECTRONICS

The boom is controlled by accessorial radio remote control.

All exposed control components are IP65 rated. Cables and connections between boom, radio controller and power unit are designed for harsh mining environment.



AVAILABILITY FOR STATE-OF-THE-ART AUTOMATION



All Normet Xrock breaker booms have availability for Xrock® Automation platform. Xrock® Automation system optimizes the mine's processes in a responsible way and gives you the time to focus on anticipating and developing your business.

Xrock® Automation lets operators' control everything ergonomically from the safety of a control room. The Xrock® Automation system itself is specifically designed to be user-friendly: it's easy to learn and intuitive to use, so users will quickly get acquainted with productive work. Boom operation, management and diagnostics are available straight from the control station.

All Xrock® Automation platforms are made flexible and scalable to the mine's current and future demands. As your business grows and develops, we'll deliver you readily available solutions straight from the shelf.



TECHNICAL SPECIFICATION

BOOM

| | X22-290R | X22-320 | X22-350 |
|--|----------|---------|---------|
| Maximum reach (incl. nominal breaker), m | 4.3 | 4.8 | 5.2 |
| Horizontal reach, max (breaker vertical), m | 2.9 | 3.1 | 3.5 |
| Vertical reach, max (incl. nominal breaker), m | 2.2 | 3.3 | 4.1 |
| Nominal breaker length, m | 1.7 | 1.7 | 1.7 |
| Lift boom length, m | 1.75 | 1.6 | 1.6 |
| Dipper boom length, m | 1.1 | 1.25 | 1.6 |

Welded high tensile steel plate structure (290R)

Welded high tensile steel square pipe structure 200 x 200 mm section (320 & 350)

Reinforced swivel points

Heat treated multi alloy steel pins with conical locking

Special bronze bushings with grease depots

PEDESTAL X22-290R

Welded steel plate structure

Slewing ring with internal gear

High torque hydraulic motor

Slew angle 360°

Foundation plate width 0.66 m

Foundation plate length 0.75 m

PEDESTAL X22-320 & X22-350

Welded steel plate structure

Dual king pin slew pillar

Slew pin diameter 80 mm

Two double acting slew cylinders

Slew angle 170°

Foundation plate width 0.69 m

Foundation plate length 0.93 m

BREAKER

With boom specified configuration

Recommended Normet Breakers:

XB5

XB6

Boom installed breakers includes 1 pcs. blunt tool, Idle blow protection standard on XB11 and above breaker models.

X22-290R

Recommended weight 200 kg - 400 kg

X22-320 & X22-350

Recommended weight 300 kg - 600 kg

CONTROL SYSTEM

Control valve with 4 proportional sections and 1 on/off section to control:

- Boom movements
- Breaker

Can be equipped with a Radio control unit sold as an accessory.

HYDRAULIC SYSTEM

Power unit PU18-43

Cylinders:

Double acting cylinders with self-aligning maintenance-free bearings

Easily replaceable seals

Max. pressure 25.0 MPa

X22-290R

Hoist 100/56-590 mm

Dipper 100/56-650 mm

Breaker tilt 100/56-380 mm

Hydraulic lifting force 12 kN

X22-320

Hoist 125/70-530 mm

Dipper 100/56-650 mm

Breaker tilt 100/56-650 mm

Swing (2 pcs.) 80/45-340 mm

Hydraulic lifting force 16 kN

X22-350

| | |
|-------------------------|---------------|
| Hoist | 125/70-450 mm |
| Dipper | 100/56-650 mm |
| Breaker tilt | 100/56-650 mm |
| Swing (2 pcs.) | 80/45-340 mm |
| Hydraulic lifting force | 11 kN |

POWER UNIT

| | |
|---|------------|
| Constant displacement gear pump | |
| Tank with 110% drip tray, service hatch and oil level indicator | |
| Oil filtration | 10 µm |
| Pressure line filter clogging indicator | |
| Electric oil level switch | |
| Thermostat controlled air cooler for oil with 0.25-0.37 kW fan | |
| Oil pressure gauge | 0-25.0 MPa |
| Pressure relief valve | 23.0 MPa |

PU18-34

| | |
|---------------------------|----------|
| Pump displacement | 43 cc |
| Pump capacity at 1500 rpm | 65 l/min |
| Pump capacity at 1800 rpm | 78 l/min |
| Oil tank | 250 l |

REMOTE CONTROL SYSTEM

Wireless remote control with 2 joysticks and cable support

The following machine components can be controlled by radio remote control:

- Boom slew left/right
- Boom lift up/down
- Boom stick in/out
- Breaker tilt in/out
- Breaker on/off
- Power unit start/stop

ELECTRICAL SYSTEM

Mains supply voltage:

- 50 Hz
 - 380 V (IEC)
 - 400 V (IEC)
 - 415 V (IEC)
 - 420 V (IEC)
 - 525 V (IEC)
 - Special voltage
- 60 Hz
 - 440 V (IEC)
 - 460 V (IEC)
 - 480 V (IEC)
 - 480 V (cULus)
 - 575 V (IEC)
 - 575 V (cULus)
 - Special voltage

Flange mounted squirrel cage electric motor:

| | 1500 rpm (50 Hz) | 1800 rpm (60 Hz) |
|----------|------------------|------------------|
| PU18-43 | 18 kW | 22 kW |
| PU30-63 | 30 kW | 36 kW |
| PU37-87 | 37 kW | 44 kW |
| PU45-121 | 45 kW | 54 kW |
| PU55-151 | 55 kW | 66 kW |

TECHNICAL DOCUMENTATION

Standard documents:

Instruction manuals, hard copy 1 pcs:

- English
- Russian
- One of destination EU languages

Spare parts manuals, hard copy 1 pcs:

- English

PDF manuals on USB-stick 1 pcs, includes instruction and spare parts manuals

Boom placement drawing superimposed customer's plant lay-out drawing

Dimensional (G.A.) drawings

Coverage drawing

Pedestal load data table

Foundation plate drawing

Additional documentation:

- Other than standard language manuals

ACCESSORIES

MAIN ACCESSORIES

- PU18-43 Power unit
- XB5 (X5LB) Hydraulic Breaker
- XB6 (XB6LB) Hydraulic Breaker
- Wireless remote control
 - 434 MHz
 - 458 MHz (US, Canada, Mexico)

One Power unit and one Breaker can be selected for the boom.

Boom installed breakers include 1 pcs. blunt tool. Idle blow protection standard on XB11 and above breaker models.

PROCESS PRODUCTIVITY

- Automatic lubrication system
- Manual lubrication system
- Automatic breaker lubrication system
- Off-line oil filtering system

Automatic and Manual lubrication cannot be selected together.

SAFETY (BOOM)

- Slew limiter kit
- Boom limiter kit

SAFETY (POWER UNIT)

- Fire extinguisher system

COLD CLIMATE ACCESSORIES (POWER UNIT)

- Oil heater
- Oil circulation valve

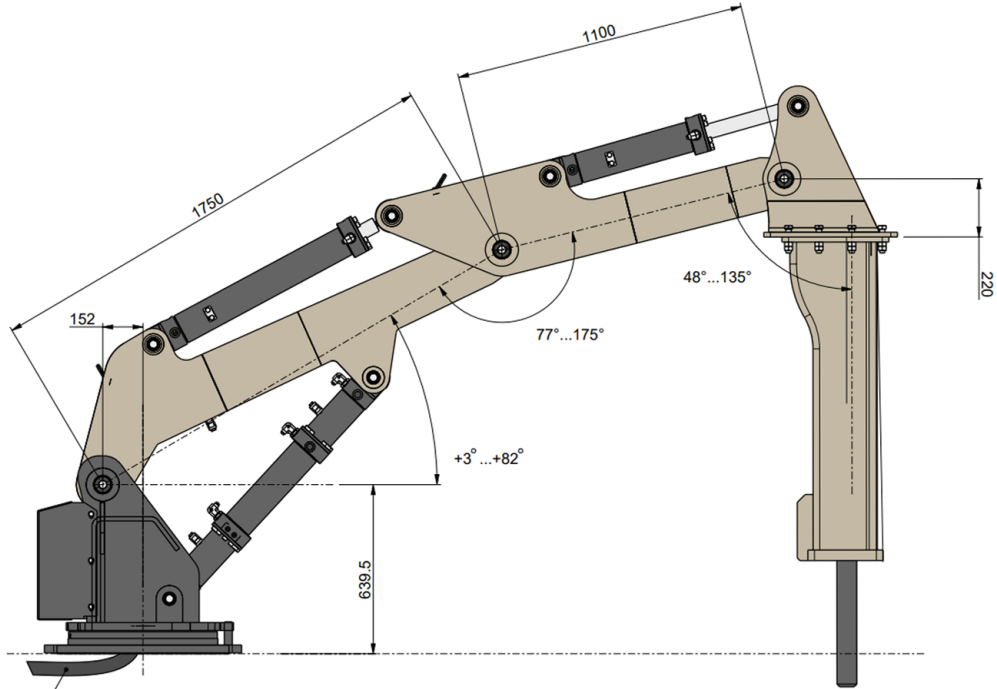
OTHER ACCESSORIES

- Extended hydraulic hoses, 12 m
- Extended control cable, 20 m
- Extended valve control cable, 12 m
- Special voltage
- Special motor

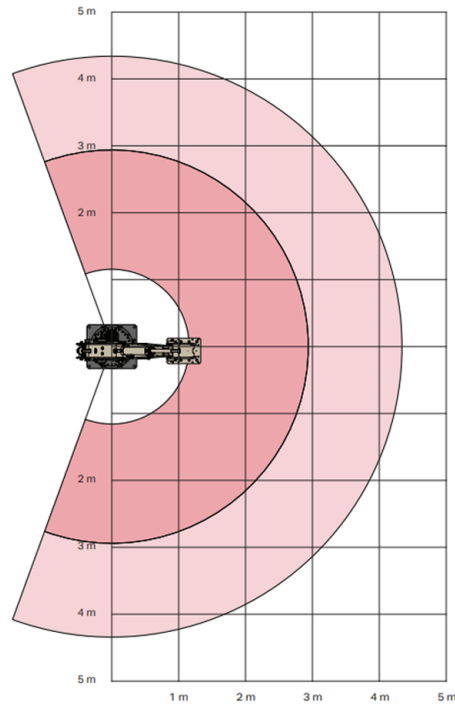
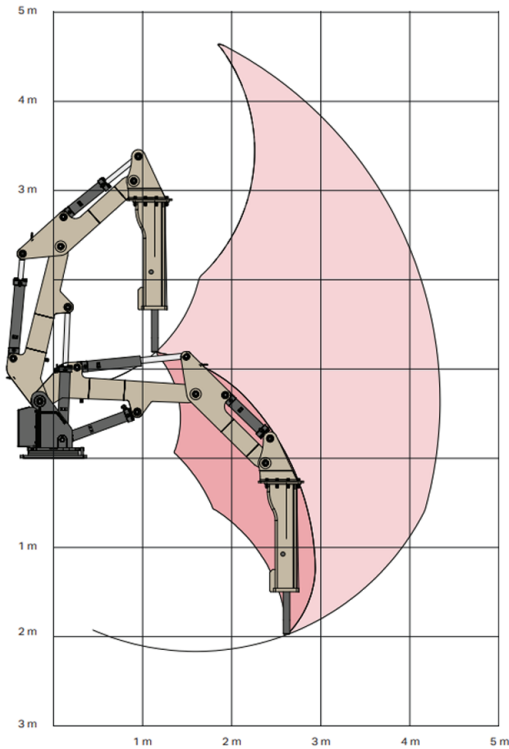
Tropical motor, special insulation, above 2000 m M.A.S.L. etc..

DIMENSIONS

SIDE VIEW & REACH AREA X22-290R



Note. Hydraulic lines route

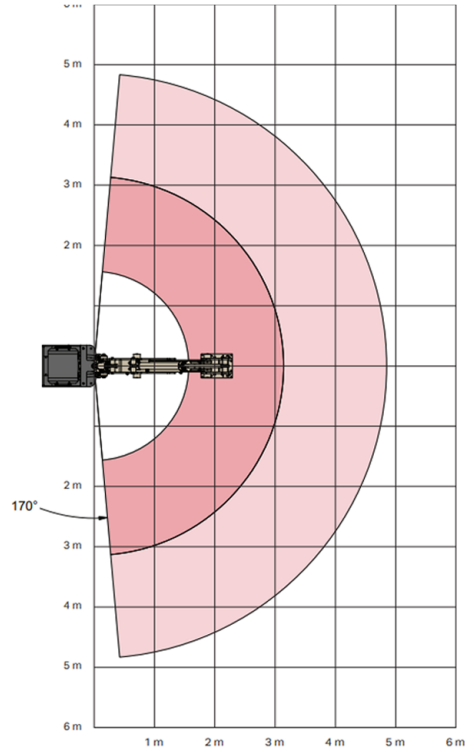
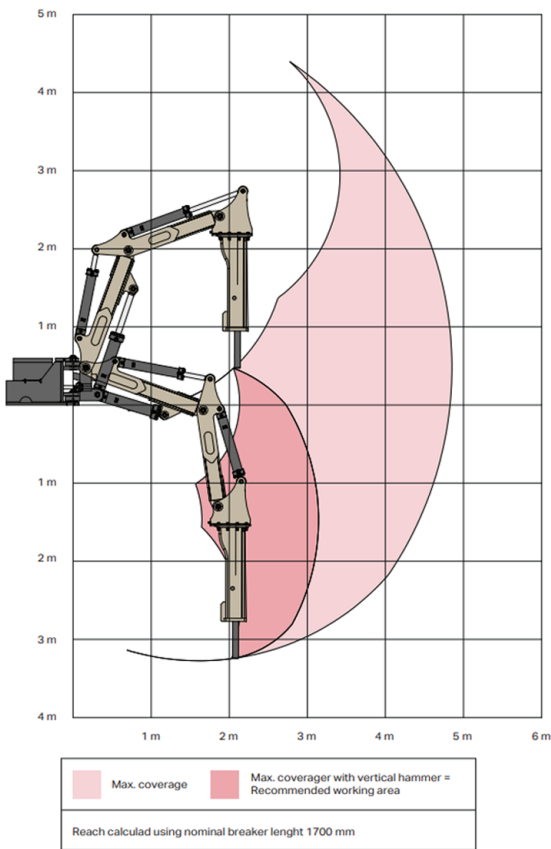
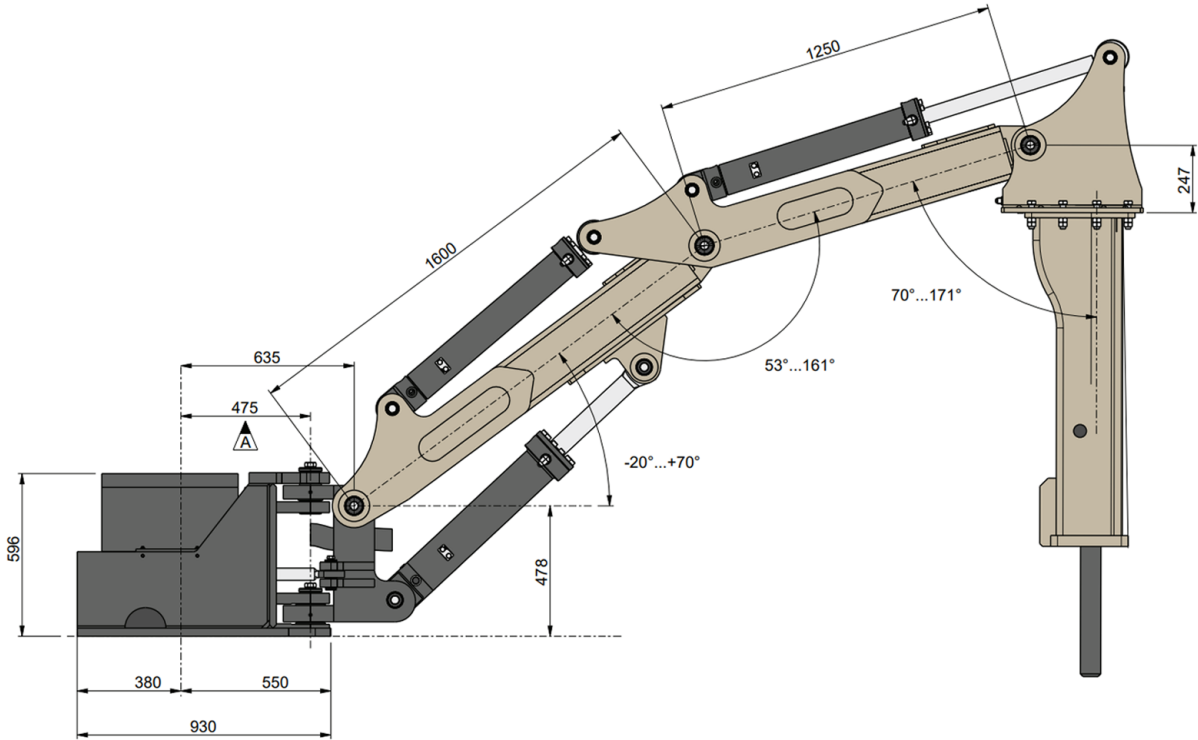


| | | | |
|---|---------------|--|---|
| | Max. coverage | | Max. coverage with vertical hammer = Recommended working area |
| Reach calculated using nominal breaker length 1700 mm | | | |

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SIDE VIEW & REACH AREA X22-320

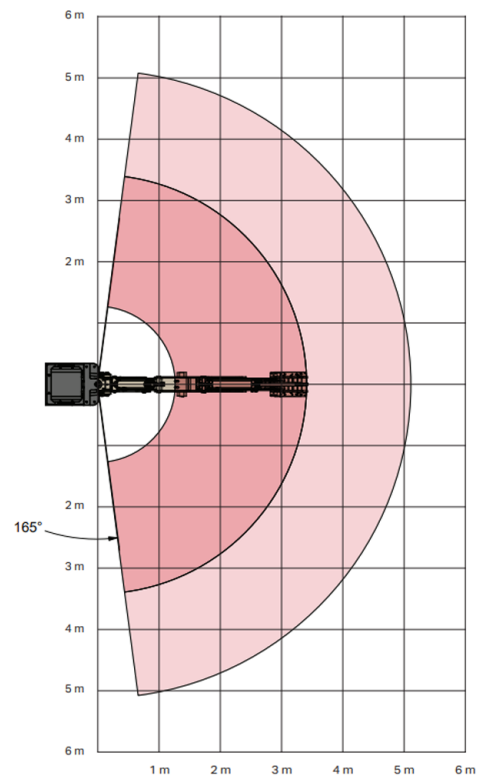
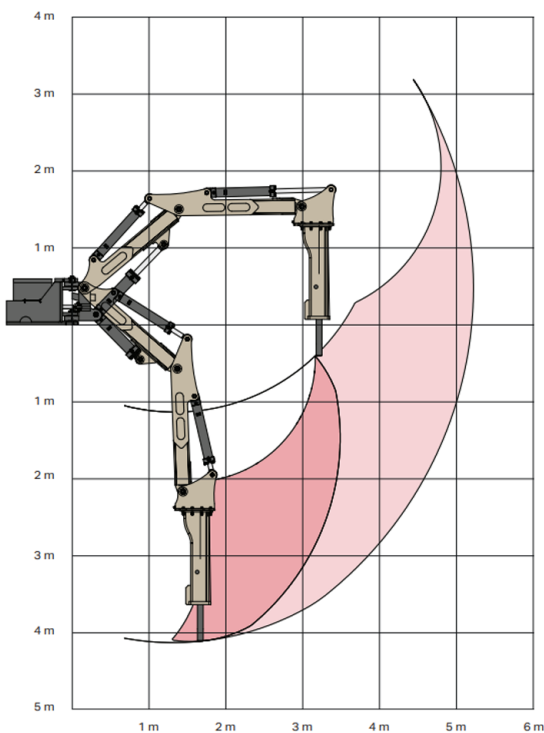
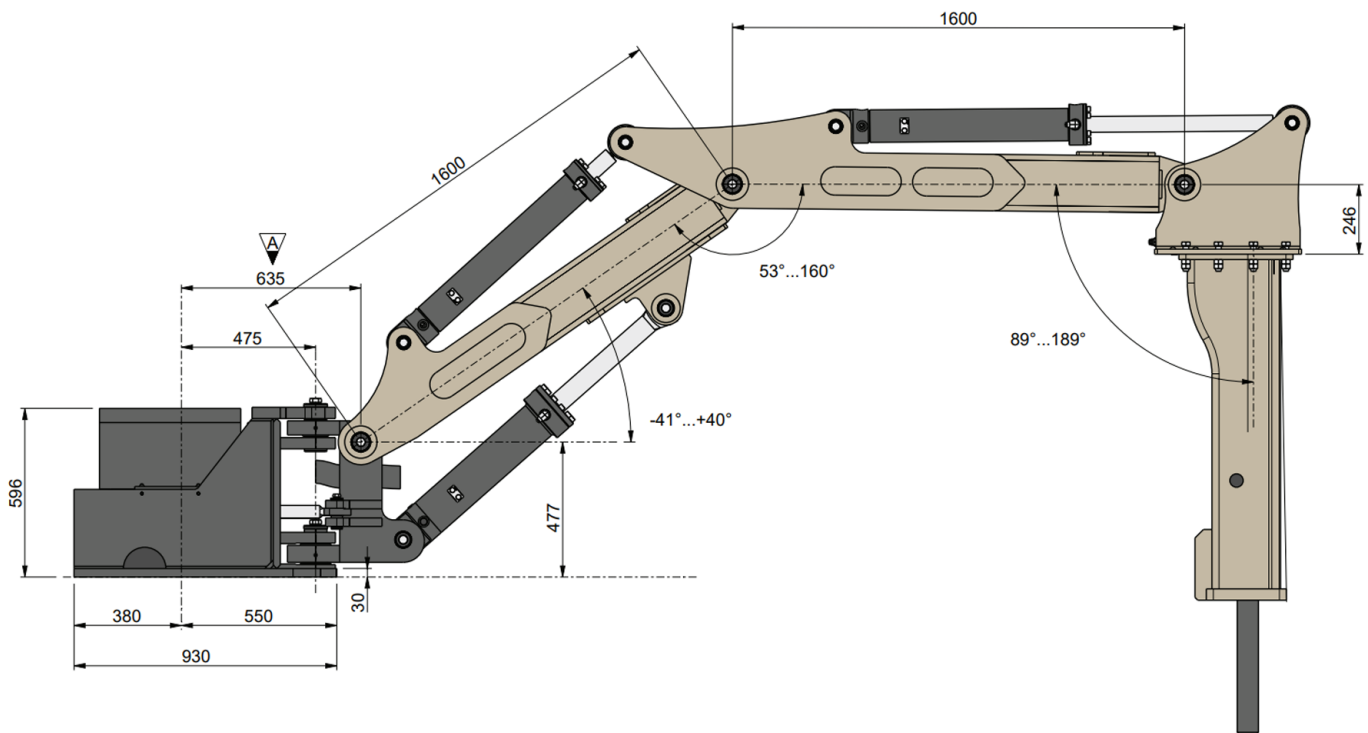


Max. coverage
 Max. coverage with vertical hammer = Recommended working area
 Reach calculated using nominal breaker length 1700 mm

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SIDE VIEW & REACH AREA X22-350

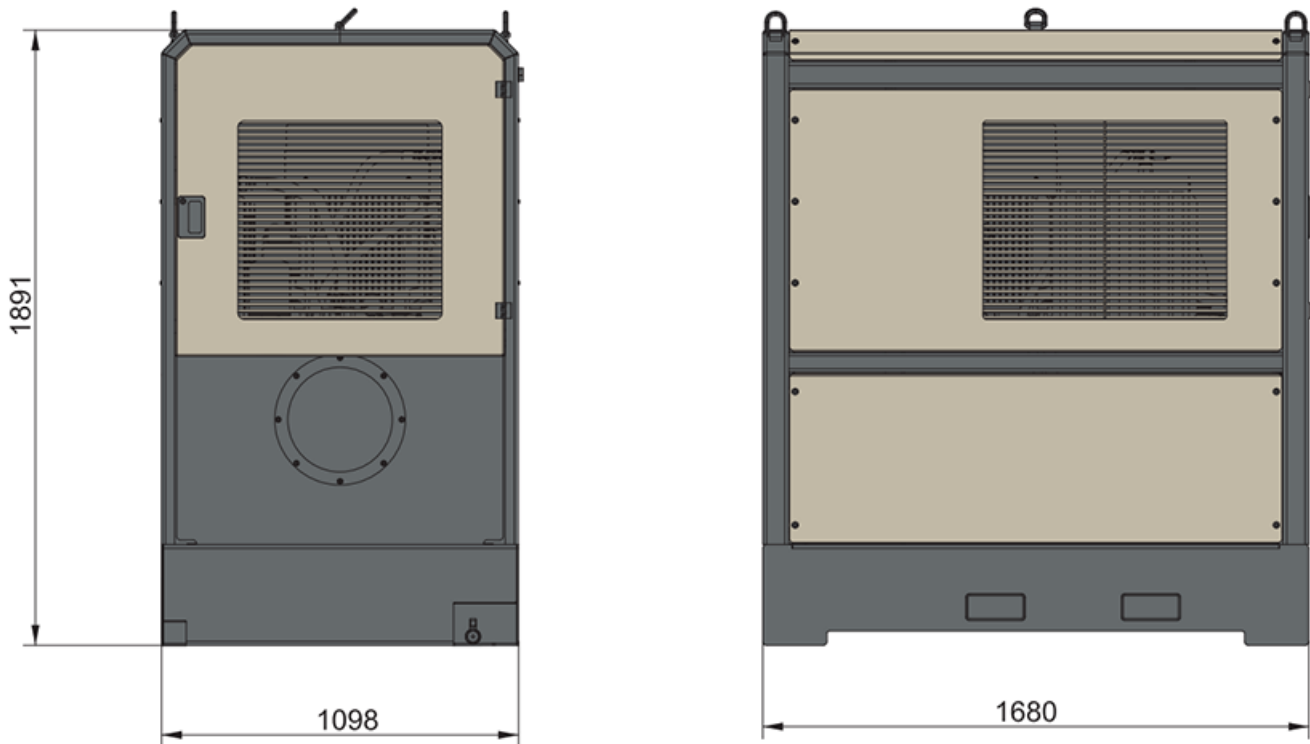


Max. coverage
 Max. coverage with vertical hammer = Recommended working area
 Reach calculated using nominal breaker length 1700 mm

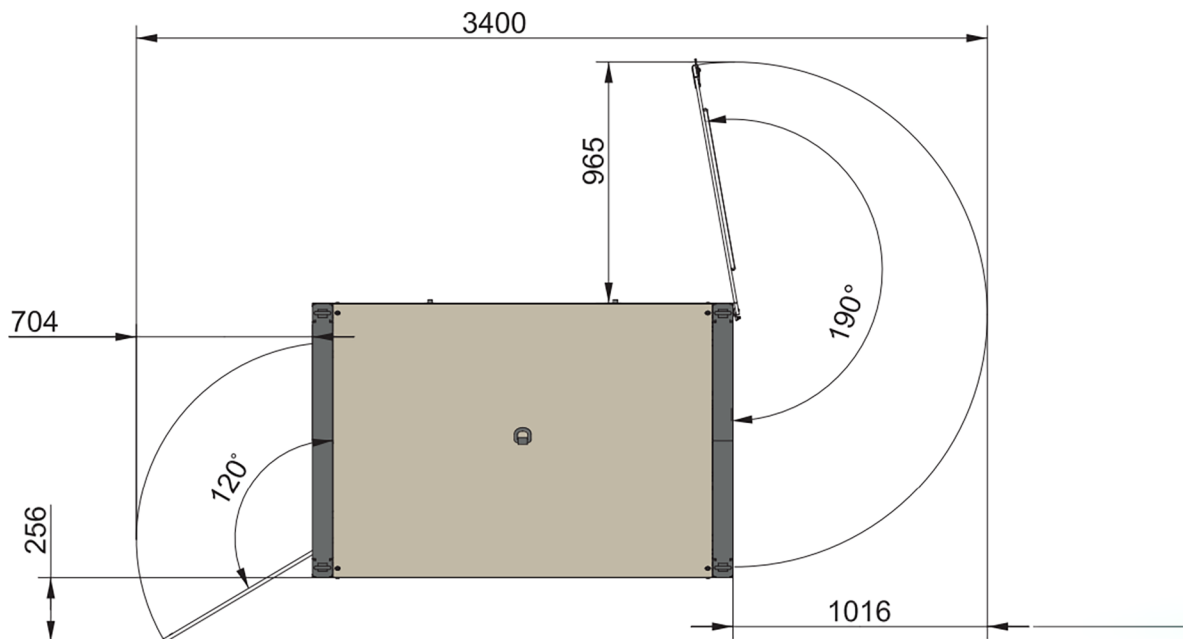
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SIDE VIEW POWER UNIT



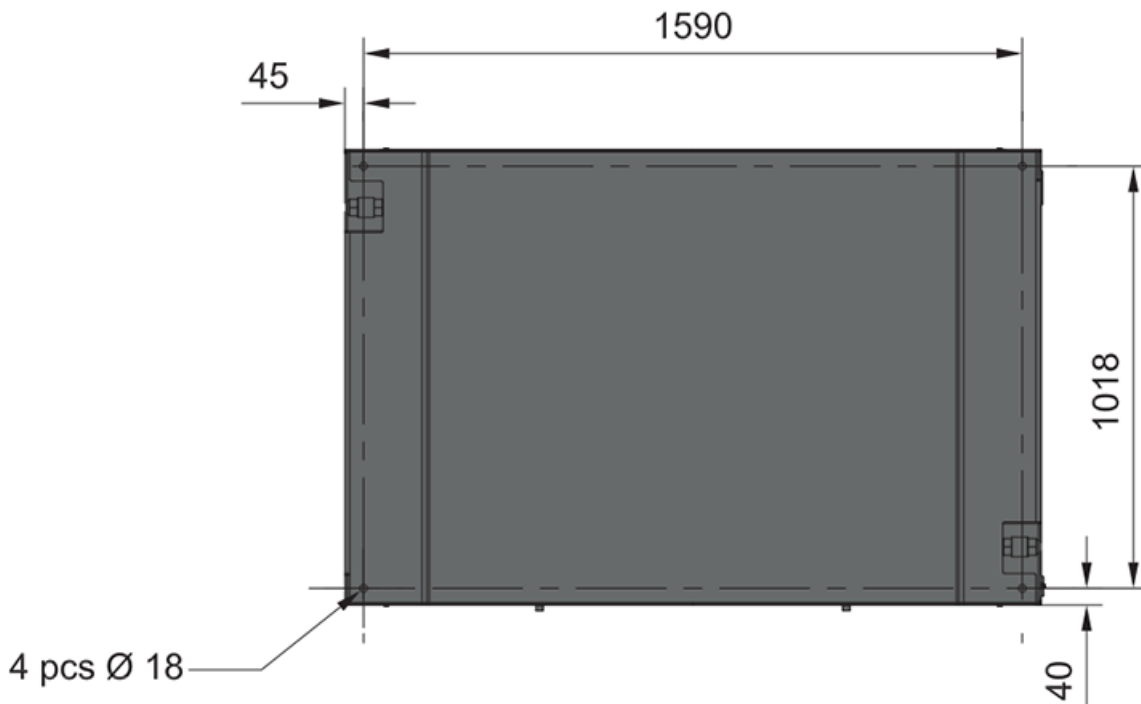
TOP VIEW POWER UNIT



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BOTTOM VIEW POWER UNIT



OPERATING WEIGHT (WITHOUT BREAKER)

| | |
|----------------------------------|---------|
| Base machine X22-290R | 1150 kg |
| Base machine X22-320 | 1355 kg |
| Base machine X22-350 | 1400 kg |
| Power units(without oil): | |
| Base machine PU18-43 | 800 kg |
| Base machine PU30-63 | 900 kg |
| Base machine PU37-87 | 950 kg |
| Base machine PU45-121 | 1200 kg |
| Base machine PU55-151 | 1310 kg |

final machine weight variate in agree with selected options

SERVICES

NORMET SERVICES

Normet is committed to servicing its customers all over the world. We provide service from a single machine to an entire fleet. The Normet service offering consists of many different products from delivery of parts and training to fleet performance agreements.

More information check [normet.com](https://www.normet.com):

<https://www.normet.com/en/products-and-services>

For any questions about Normet Services contact local Normet.

<https://www.normet.com/en/contact/>

SPARE PARTS

As a leading global Original Equipment Manufacturer, we are committed to providing a complete solution to your spare parts needs. All of Normet's spare parts are manufactured to the highest possible standards to help maintain the safety and profitability of your projects. Our spare parts improve efficiency and total cost of ownership throughout your operations.

Spare part recommendation / Start-up Spare Part package: Normet Xrock products have service kits available for commissioning, 2-year and 4-year operation and most critical parts.

SERVICE AGREEMENTS

Service agreements are always customized to meet our customer needs, consisting of various Normet service products. The service solution is created together with the customer and the level of an agreement can vary with different support agreements (including e.g. parts, periodical maintenance, on-call services, and audits) up to guaranteed fleet availability or process performance (including e.g. parts, all maintenance activities, operator trainings and process audits).

Note that we can provide Digital solutions with connected equipment.

More information check [normet.com](https://www.normet.com).

TRAININGS

Range from equipment service training to process application training.

We offer a sustainable training path from the beginning of your operation to the execution stage of your project.

More information check [normet.com](https://www.normet.com).

COMMISSIONING

Equipment commissioning concerns **equipment familiarization**. This is included as part of Normet vehicle delivery. Safety introduction and operating basics for Normet Equipment. Review of Normet user and spare parts manuals. Hands-on equipment safety device operational training. Ensure product quality and customer satisfaction during handover.

Commissioning includes machinery handover to customers and safety operating principles without technical insights or process application training.

EXTENDED COMMISSIONING

We offer an extended training package on top of standard commissioning. Normet provides extended commissioning services that offer basic insights into maintenance manuals, periodical and daily maintenance, as well as modern operating perspectives to maximize handling efficiency. Safety-oriented training ensures reliable operations for Battery Electric Vehicles and Diesel-Driven based on your vehicle fleet. This cost-effective solution covers the essential aspects of equipment operation, safety, and maintenance schedules.

To ensure continuous and maximized safe operations with your new equipment and to expand your knowledge scale of operations, this option is the most suitable and recommended option for extending your new equipment training. This cost-effective solution covers the essential aspects of equipment operation, safety, and maintenance schedules.

UPGRADES AND MODIFICATIONS

We build our machines to last. We also understand that your needs on the ground can change - and reacting to that change makes a big difference in your productivity. Normet Upgrades & Modifications provide you with access to product improvements that meet your evolving requirements and let you stay one step ahead of the curve.

Contact your local Normet office for Upgrade offering to your fleet.

More information check [normet.com](https://www.normet.com).

