

BMW Motorrad Service

Construction standards and planning principles for the design of BMW Motorrad service workshops within the retail organisation.

Guidelines for building owners, workshop planners, architects, HVACR planners and statics engineers.

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Source: www.bmwgroup-wep.com

www.parts.bmwgroup.com (ASAP)
<https://smp.bmwgroup.net> (S&M Portal)

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Introduction

This document is intended as an aid to parties involved with the planning and execution of a BMW Motorrad dealership. It is assumed that a basic understanding of building-specific matters is given, and that “the recognised rules of architecture” are known.

All information specifically relates to the requirements of BMW Motorrad dealerships and is not necessarily adaptable to other brands.

The BMW Motorrad building and workshop standards are not a substitute for the Building and Equipment Consulting by BMW departments.

This handbook enables building owners, workshop planners, architects, HVACR planners and structural engineers to profit from the experience of BMW workshop planning right from the start. It is possible to look up details or design entire functional units according to the local requirements. Consistent use of these planning principles will make an important contribution to the smooth interplay between BMW Group vehicle and service technology in everyday workshop practice. Last but not least, the planning-side health, safety and ergonomic aspects represent an important building block for achieving high levels of motivation and performance in service employees.

These planning principles do not deal with the special aspects of individual countries (e. g. climate, building codes, official guidelines, safety requirements). These must be taken account of by local planners.

The dimensions of the work bay areas and ancillary rooms mentioned below relate to a small service company of the BMW Group, and should therefore be regarded in all cases as minimum requirements.

All data and dimensions contained in the workshop planning manual are up to date and valid at the time of publication. Before detailed planning begins, however, the manufacturer’s latest plans should be requested in all cases.

The planning principles manual is subject to continuous further development. The current version applies.

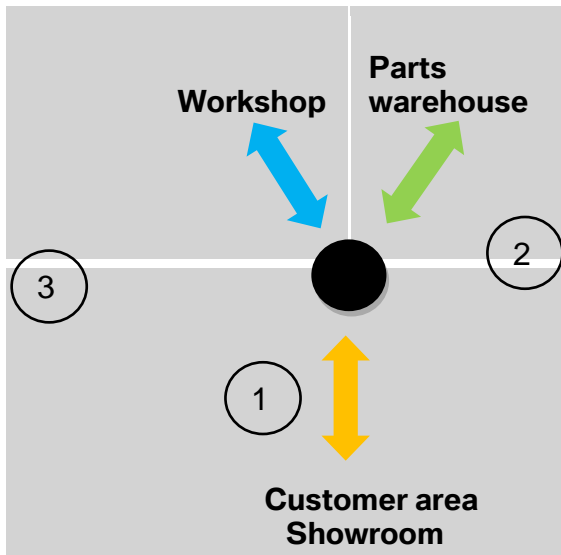
Further information on the BMW Motorrad OCS, ICS and Shop System, as well as the relevant retail standards and guidelines, can be found on the S&M portal and on IdentityNet.

Part I: Building standards

1.1 Building standards – showroom

1.1.1 General requirements in the customer area

The functional arrangement of the customer area, workshop and parts warehouse is based on a “three-point system”. This means that the customer has direct access from the customer area to the parts counter and to the service reception area.



All services are offered in the customer area:

- 1 Display and sale of motorbikes, driver equipment, parts and accessories
- 2 Sale of parts and accessories
- 3 Service reception area

1.1.2 Space requirements for showroom

| Dealer groups Sold units of new motorbikes per year | 0 25 – 49 | | 1 50 – 99 | | 2 100 – 174 | | 3 175 – 248 | |
|---|----------------|--------|----------------|--------|----------------|--------|----------------|-------|
| | m ² | A P | m ² | A P | m ² | A P | m ² | AP |
| Showroom | | | | | | | | |
| Showroom for new vehicles including motorbike equipment | 120 | | 150 | | 150 – 200 | | 280 | |
| Presentation area for driver equipment & accessories | 15 – 20* | | 20 – 40* | | 45 – 60* | | 60 – 80* | |
| Sales staff workstation | 12.5* | 1 | 12.5* | 1 | 25* | 2 | 25* | 2.5 |
| Bikers' meeting area | 10* | | 10* | | 10* | | 10* | |
| Reception, information desk, cash desk | 10* | | 10* | | 10* | | 10* | |
| Motorbike delivery, events | 8* | | 8* | | 10* | | 10* | |
| Customer toilets/cloakroom | 18 | | 18 | | 21 | | 21 | |
| Management | 14 | | 14 | | 17 | | 17 | |
| Aftersales customer area | 25 | | 35 | | 35 | | 35 – 50 | |
| Service reception area | 15 | 1 | 15 | 1 | 15 | 1 | 15 – 30 | 1 – 2 |
| Sale of parts and accessories | 10 | 1 | 20 | 2 | 20 | 2 | 20 | 2 |

* Included in showroom item

Note:

All information is regarded as an average value and is intended to provide rough orientation.

1.1.3 Minimum structural heights

Height specifications relate to the space from the upper edge of fitted flooring to the lower edge of the supporting construction (girders, trusses, cable runs or suspended ceilings, etc.) and are quoted as minimum dimensions. (Local construction specifications may need to be complied with.)

Display of new and used motorbikes > 2.80 m

Service reception and other sales area incl. offices > 2.80 m

Service reception or minimum height acc. to hoist 3 m

1.1.4 Load bearing capacity

Display, service reception, sales area and office 6 KN/m²

1.1.5 Electrical installation work

Cabling:

Low voltage for telephone, loudspeakers, aerials and intercoms, IT cabling (empty ducts, cable ducts), sectioned supply ducts in office areas, customer area with pedestal or floor sockets. For service reception: corresponding power connection for operation of vehicle hoist (three-phase current).

Lighting:

- Display curve 750 Lux
 - o Lights: spots
 - o Highlight bike max. 2,000 Lux
 - o Light colour cool white (942)

- Ride & Style 750 Lux (max. 1,500-2000 Lux)
 - o Lights: Built-in spots
 - o Light colour warm white (930)

- Bikers Meeting Area 300 – 500 Lux (max. 1,000 Lux)
 - o Lights: Built-in spots
 - o Light colour warm white (930)

- Consultation 500 Lux (max. 750 – 1,000 Lux)
 - o Lights: Spots, pendant lights
 - o Light colour warm white (930)

- Accessories 500 Lux (max. 1,500 – 2,000 Lux)
 - o Lights: spots
 - o Light colour cool white (942)

- Delivery 750 Lux (max. 1,500 Lux)
 - o Lights: spots
 - o Light colour cool white (942)

1.1.6 Showroom room book

| Area | Component | Standard |
|---|---------------|---|
| Showroom for new motorbikes with motorbike accessories Special presentation area for motorbikes Delivery Composite display for motorbikes Events | Floor | Anthracite tiles, glazed and smoothed concrete screed, dark matt anthracite |
| | Walls | Smooth white, RAL 9010 |
| | Ceiling | Smooth white, RAL 9010 |
| | Installations | Primary lighting suspended, in-wall installations |
| | Equipment | Decorations and fittings as per ICS |

| Area | Component | Standard |
|-------------------------------------|---------------|---|
| Showroom for used motorbikes | Floor | Anthracite tiles, glazed and smoothed concrete screed, dark matt anthracite |
| | Walls | Open hall, other walls smooth white, RAL 9010 |
| | Ceiling | Smooth white, RAL 9010 |
| | Installations | Primary lighting suspended, surface-mounted installations |
| | Equipment | Decorations and fittings as per ICS |

| Area | Component | Standard |
|--|---------------|---|
| Special areas | Floor | Oak parquet, oiled knotholes |
| Driver equipment | Walls | Smooth white, RAL 9010 |
| Accessories | Ceiling | Smooth white, RAL 9010 |
| Biker's Meet | Installations | Primary lighting suspended, flush-mounted installations |
| Reception, information desk, cash desk | Equipment | Decorations and fittings as per ICS |
| Sale of parts and accessories | | |

| Area | Component | Standard |
|--------------------------------|---------------|---|
| Parts issue to workshop | Floor | Ceramic tiles or as store |
| | Walls | Smooth white RAL 9010 Hatch/counter + door to workshop |
| | Ceiling | Bare ceiling, design untreated |
| | Installations | IT connection |
| | Equipment | Standing desk with IT equipment |

1.1.7 Service reception at the motorbike

| Service reception – 3-types concept | Feature | Standard |
|-------------------------------------|---------------------------------------|---|
| Basic | Marked out area for service reception | External lighting 1 – 2 posters |
| Middle | Covered (wind/weather-proof) area | External lighting Standing counter 2 – 3 posters Optional: hoist, LED screen |
| High | Closed room | Hoist (floor level) ICS communication tools Standing counter/desk Shop elements Several posters Optional: LCD screen |

| Area | Component | Standard |
|--------------------------------------|-------------------------------------|--|
| Service reception “Basic” | Floor | Corresponding with relevant outside area |
| | Walls | Corresponding with relevant outside area |
| | Ceiling | No ceiling |
| | Installations (minimum requirement) | No installations |
| | Equipment | Note CI specifications |

| Area | Component | Standard |
|---------------------------------------|-------------------------------------|---|
| Service reception “Middle” | Floor | Corresponding with relevant outside area |
| | Walls | Corresponding with relevant outside area |
| | Ceiling | Corresponding with relevant outside area |
| | Installations (minimum requirement) | Vehicle hoist ground level (if applicable) |
| | Equipment | Desk work bay with IT equipment Note CI specifications |

| Area | Component | Standard |
|-------------------------------------|-------------------------------------|--|
| Service reception “High” | Floor | Anthracite-coloured brick, laid using vibration method, non-slip R11 |
| | Walls | Smooth white, RAL 9010 ideally windows to sales room on one side |
| | Ceiling | Smooth white, RAL 9010 |
| | Installations (minimum requirement) | Vehicle hoist ground level (if applicable) |
| | Equipment | Desk work bay with IT equipment Note CI specifications |

1.2 Building standards for the workshop

1.2.1 Space requirements in the workshop

| Dealer groups Sold motorbike units | 0 25 – 49 | | 1 50 – 99 | | 2 100 – 174 | | 3 175 – 248 | |
|--|----------------|----|----------------|----|----------------|-----|----------------|-------|
| | m ² | AP | m ² | AP | m ² | AP | m ² | AP |
| Workshop | | | | | | | | |
| Number of work bays | | 1 | | 2 | | 3 – | | 5 – 6 |
| Workshop work bay | 12.5* – 15 | | 25* – 30 | | 37.5* – 60 | 4 | 62.5* – 90 | |
| Diagnostic work bay | 15 | | 15 | | 15 | | 15 | |
| Workshop Master | 9 | | 9 | | 9 | | 9 | |
| ISIS room | 6 | | 6 | | 6 | | 6 | |
| Air-conditioned server room (only if ISIS is used locally) | | | | | | | | |
| Oil room | 7 | | 7 | | 9 | | 11 | |
| Collecting station for residual materials | 15 | | 15 | | 20 | | 20 | |
| Specialist work bay incl. ancillary area** | 25 | | 25 | | 40 | | 40 | |
| Parking area/ancillary room | 10 | | 15 | | 20 | | 25 | |
| Battery room | 4 | | 4 | | 6 | | 6 | |
| Compressor room | 4 | | 4 | | 4 | | 4 | |
| Washing hall | 25 | | 25 | | 25 | | 25 | |

* Work bays arranged in a row.

** Specialist work bay: ancillary area for special tools cabinet, hydraulic press, cleaning equipment, tyre fitting and balancing machine.

1.2.2 Floor coverings and load bearing capacity

The pressure resistance of the workshop floor must be at least 6 KN/m². A solid brick floor laid using the vibration method is recommended, non-slip R11; oil, grease and frost resistant.

Washing hall grating:

Hot-dip galvanised, small mesh, load bearing capacity 6 KN/m².

1.2.3 Electrical installation

Cabling: Energy supply per mechanical work bay, IT cabling (empty ducts, cable ducts)

Lighting:

- Workshop 800 Lux
- Ancillary areas: 300 Lux
- Fitting, assemblies room: 500 Lux

1.2.4 Workshop room book

| Area | Component | Standard |
|--------------------------|---------------|---|
| Mechanical repair | Floor | Red bricks, laid using vibration method, non-slip R11 |
| | Walls | White tiles, door height, remaining surfaces white |
| | Ceiling | Bare ceiling, design untreated |
| | Installations | Air, oil, energy supply, waste air systems as per local requirements |
| | Equipment | Equipment and installations as per BMW recommendation www.bmwgroup-wep.com (Catalogue) |

| Area | Component | Standard |
|---|---------------|---|
| Ancillary rooms Oil room*, battery room, parking area | Floor | Red bricks, non-slip R11 |
| | Walls | Tiles to door height, remaining surfaces white |
| | Ceiling | Untreated |
| | Installations | Surface-mounted installations Note air provision and ventilation |
| | Equipment | Equipment and installations as per BMW recommendation www.bmwgroup-wep.com (Catalogue) |

* Provide collecting basin for any escaping media

1.3 Building standards for parts warehouses

1.3.1 Parts warehouse space requirements

| Dealer groups Sold motorbike units | 0 25 – 49 | | 1 50 – 99 | | 2 100 – 174 | | 3 175 – 248 | |
|---------------------------------------|----------------|----|----------------|----|----------------|-------|----------------|-------|
| Space requirements | m ² | AP | m ² | AP | m ² | AP | m ² | AP |
| Store | | | | | | | | |
| Parts warehouse | 25 | 1 | 40 | 2 | 70 | 3 – 4 | 110 | 5 – 6 |
| Shop store | – | | – | | 10 | | 10 | |

1.3.2 Minimum structural heights

Height specifications relate to the space from the upper edge of fitted flooring to the lower edge of the supporting construction (girders, trusses, suspended ceilings) and are quoted as minimum dimensions.

| | |
|----------------------------|--------|
| Single-storey shelf system | 2.40 m |
| Two-storey shelf system | 4.80 m |

1.3.3 Load bearing capacity

| | |
|-------------------------|-----------------------------|
| Two-storey shelf system | Minimum 6 kN/m ² |
|-------------------------|-----------------------------|

1.3.4 Tiles and floor coverings

As in workshop; alternative: screed (no magnesite screed)

1.3.5 Electrical installation

Cabling: Energy supply per work bay, IT cabling (empty ducts, cable ducts)

Lighting: Linear luminaires 300 Lux

1.3.6 Parts warehouse room book

| Area | Component | Standard |
|------------------------|---------------|---|
| Parts warehouse | Floor | Industrial screed, no magnesite screed, grey |
| | Walls | Door-height edge protection |
| | Ceiling | Untreated |
| | Installations | Surface-mounted installations |
| | Equipment | Equipment and installations as per BMW recommendation www.bmwgroup-wep.com "Planning principles for BMW Group parts warehouse 1.1 (4.1 MB)" |

Part II: Workshop planning principles

1.4 General requirements in workshop area

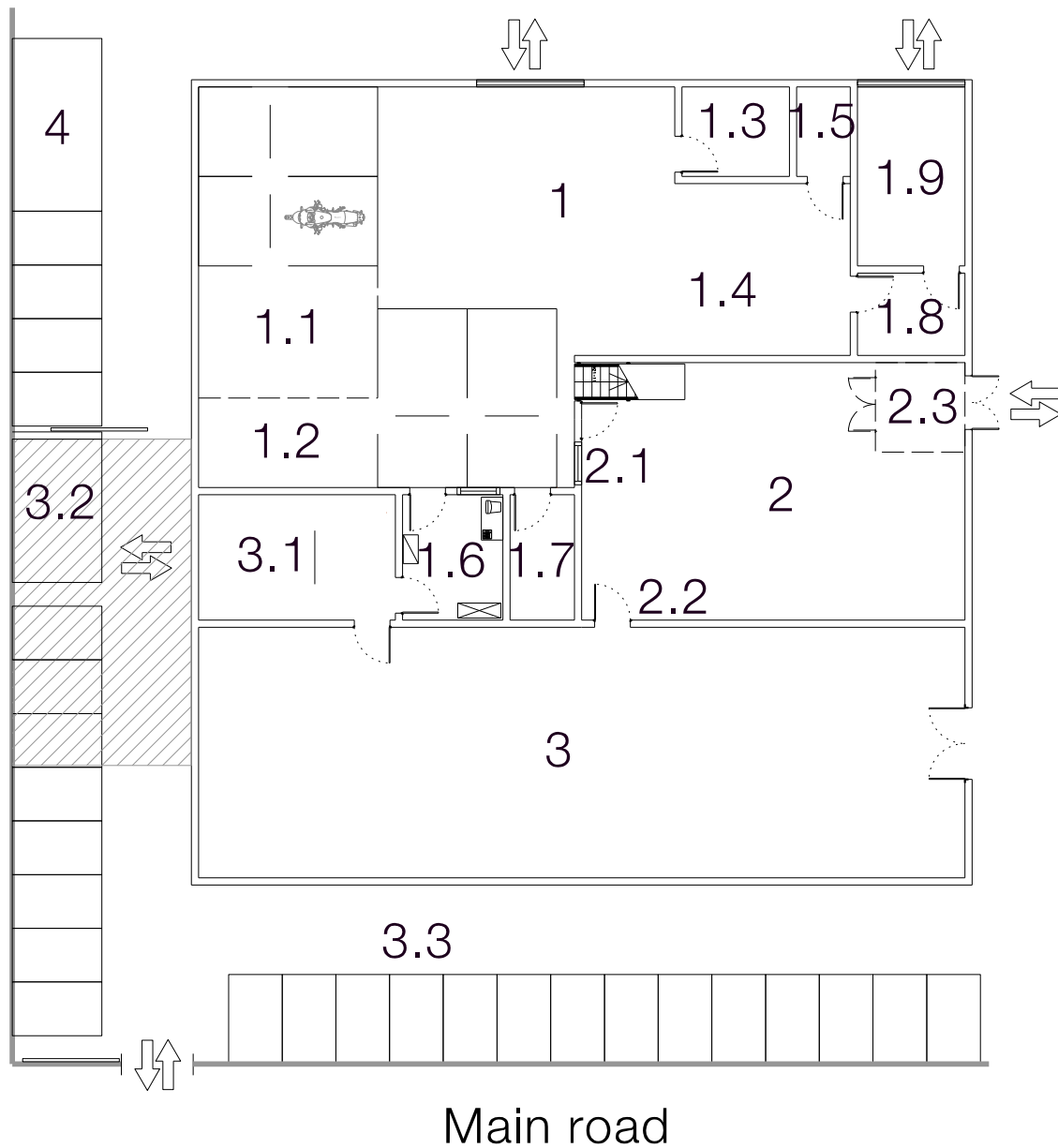


Diagram 1: Representation of the BMW Motorrad dealership

Key:

- | | | | |
|-----|----------------------------------|-----|---|
| 1 | Workshop | 2 | Parts warehouse |
| 1.1 | Ancillary area for removed parts | 2.1 | Workshop parts issue |
| 1.2 | Installation area | 2.2 | Customer parts issue |
| 1.3 | Oil supply | 2.3 | Night deliveries |
| 1.4 | Assemblies/special tools | 3 | Display |
| 1.5 | Battery room | 3.1 | Workshop service reception |
| 1.6 | Workshop office | 3.2 | Outdoor service reception (covered) |
| 1.7 | ISIS where necessary | 3.3 | Customer parking spaces |
| 1.8 | Compressor | 4 | Collecting station for residual materials/ packaging/accident vehicles |
| 1.9 | Washing hall | | |

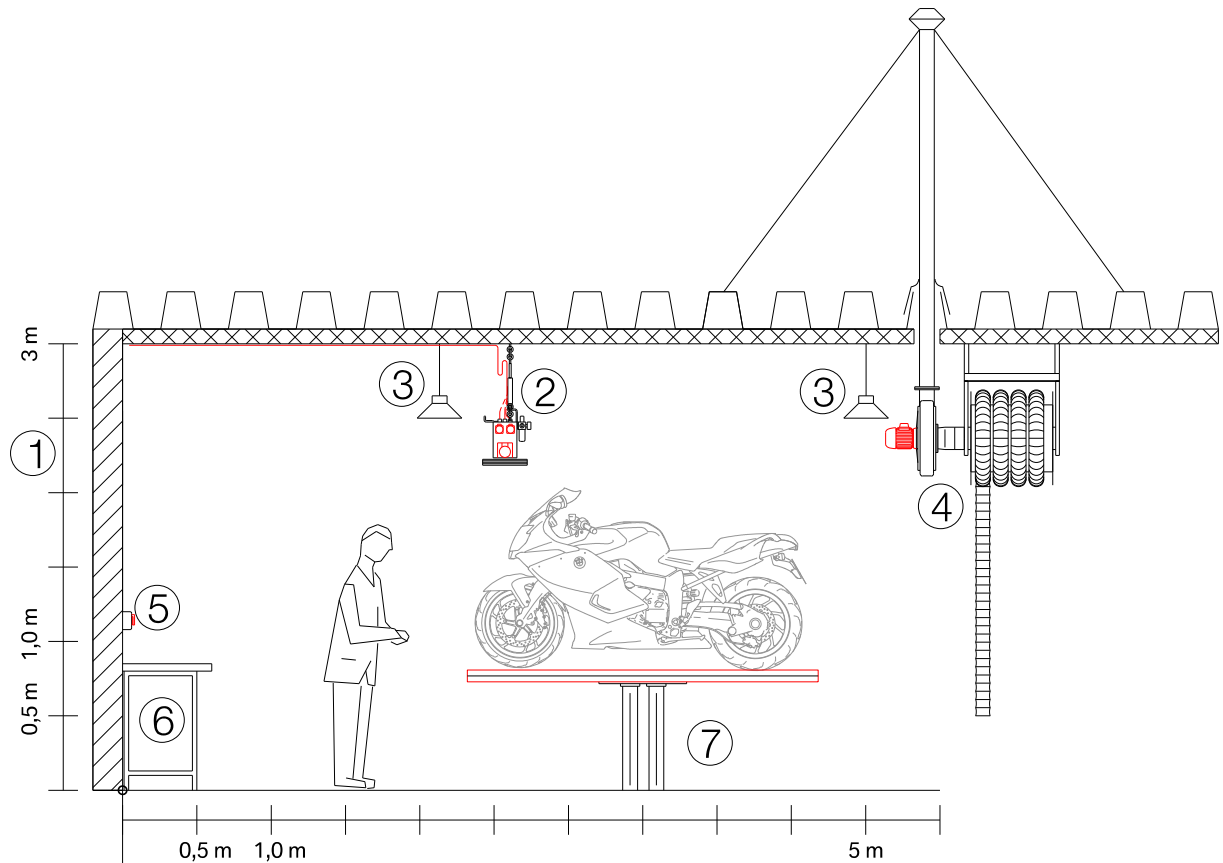


Diagram 2: Representation of work bay room height

Key:

- 1 Minimum hall height (depending on function)
- 2 Power supply heads with LAN connection (between two work bays, height 200 cm, supply lines for length compensation with gas pressure damper of 40 cm, LAN cables in flexible design in the area of the length compensation)
- 3 Light strips (transverse to vehicle's longitudinal axis over the entire work bay, height 250 cm)
- 4 Waste air extractor system (overhead)
- 5 Window sill trunking (electricity, compressed air and LAN, height 120 cm from the floor)
- 6 Workbench
- 7 Motorbike hoist

| Function | Clearance in cm | Clearance in feet (approx.) |
|--|-----------------|-----------------------------|
| Repair stand | 300 | 10 |
| Piston-type, scissor-type or parallogram vehicle hoist | 300 | 10 |
| Ancillary and parking room | 240 | 8 |
| Programming and headlight adjustment | 240 | 8 |

All dimensions are clearance dimensions incl. all installations (ventilation, heating, electricity, sanitation, etc.).

1.5 Technical equipment

| Power supply heads | Unit | |
|---------------------------|-------------|---|
| Voltage | V | 250/110, 400/440 |
| Frequency | Hz | 50/60 |
| Compressed air | mm | Inner diameter min. 8 |
| Network sockets | | Dätwyler Unipatch modular S2/8 (min. Cat6) Quante RJ 45 Modular Qmax (min. Cat6) |
| Lighting | | |
| Mechanical workshops | Lux | 800 |
| Service reception | Lux | 800 |
| Programming area | Lux | 500 |
| Ancillary rooms | Lux | 300 |

1.6 Roof ducts

Required for waste gas extraction systems.

| Planning sequence | Responsibility |
|--|-----------------------|
| Definition of roof ducts | Workshop crafts |
| Definition of dimensions | Workshop crafts |
| Definition of precise location | On site |
| Execution of roof opening | On site |
| Installation of necessary suspension points | On site |
| Definition of minimum height of waste air pipes | On site |
| Installation of waste air pipes with roof shrouds and deflector hood | Workshop crafts |
| Installation of suspension cables | Workshop crafts |
| Roof sealing | On site |

1.7 Room layout

1.7.1 Service reception at the motorbike

The “service reception at the motorbike” is an area endowed with a more sophisticated atmosphere (no workshop atmosphere).

Not only is the area used for the diagnosis on arrival and the visual inspection of bikes in the presence of the customer to determine the scope of the work required, but it is also an area that can be used for indirect cross-selling.

There are three possible ways to implement the service reception (Basic/Middle/High). Each of these types is classified by different characteristics regarding the space, the lighting and the ICS/OCS elements. Approach must be on ground level.

The possible types are described as follows:

Basic

The basic version of the service reception is a designated area with at least one parking spot.

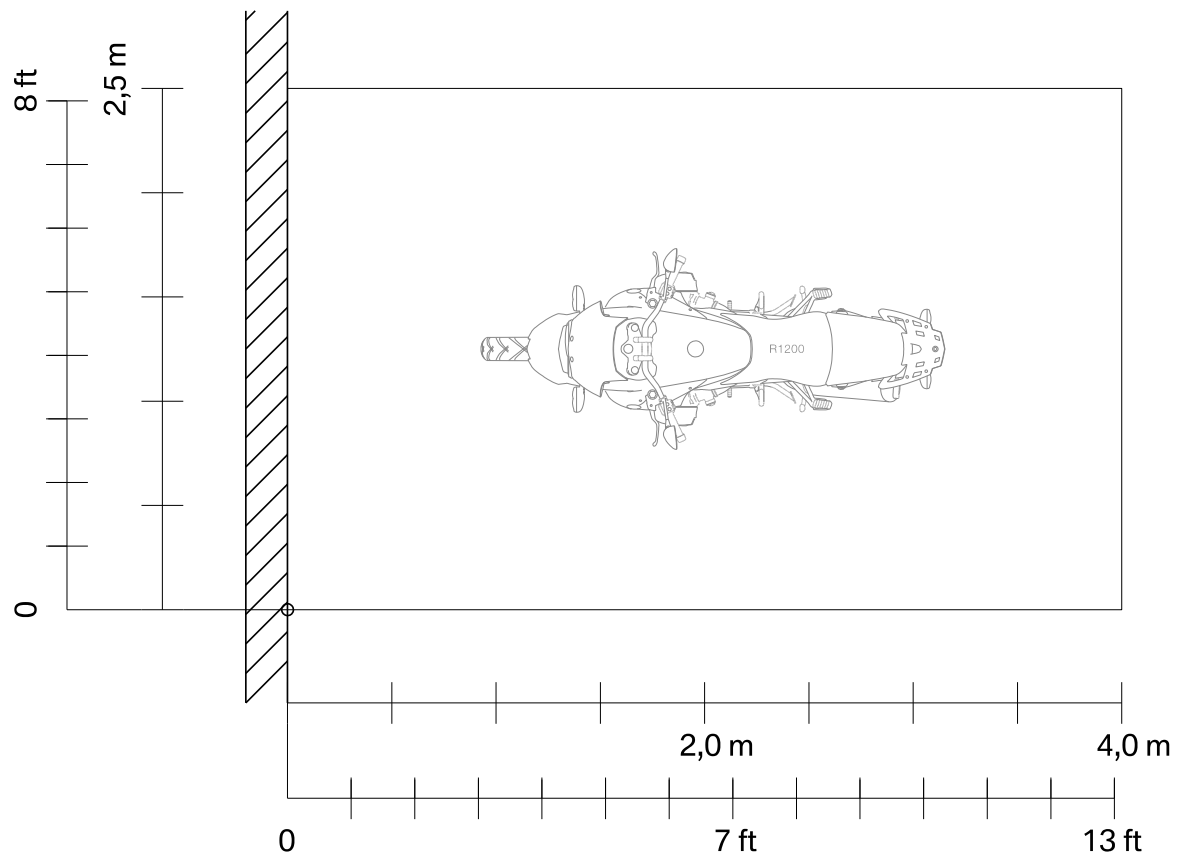


Diagram 3: Representation of the work bay for the “basic version” of the service reception

| Room dimensions | in cm | in feet (approx.) |
|-----------------------|---------------|-------------------|
| Length, width, height | 400, 250, 300 | 13, 8, 10 |

Middle

The middle version of the service reception is a covered (wind/weather-protected) area with at least one parking spot. This area can optionally be equipped with a vehicle hoist.

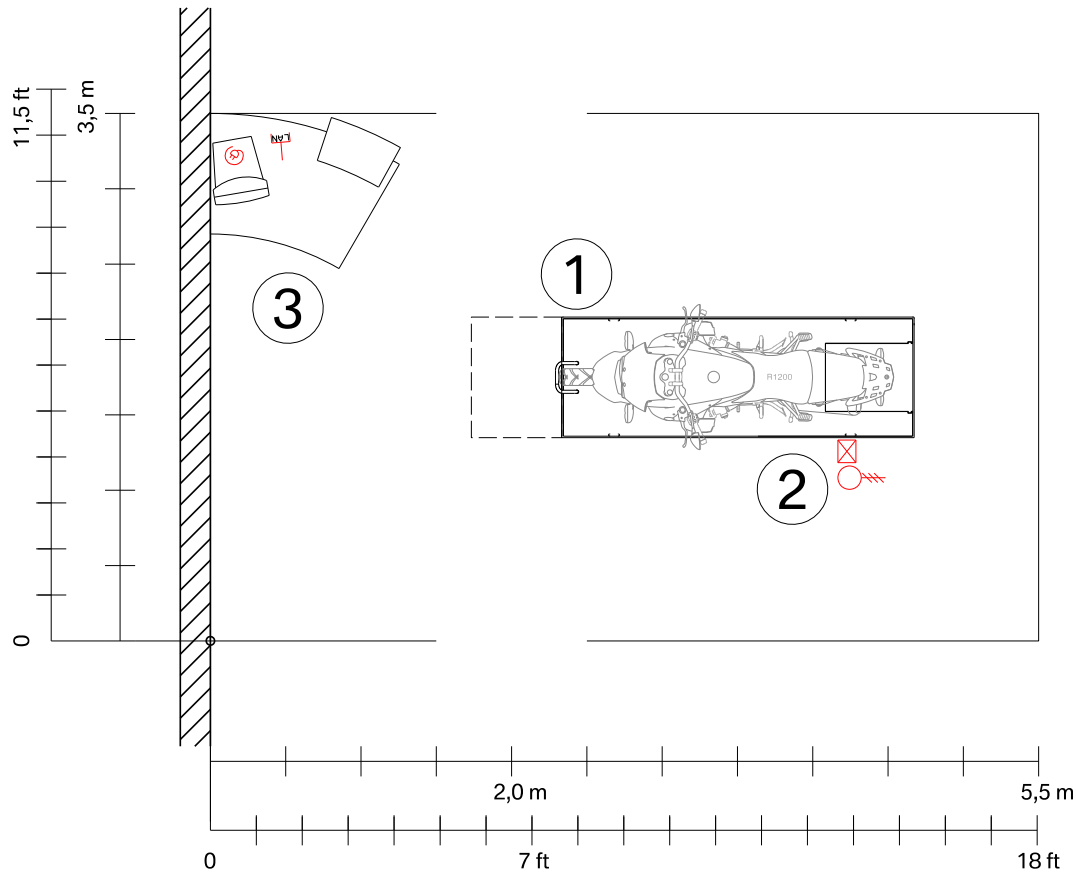


Diagram 4: Representation of the work bay for the “middle version” of the service reception

Key:

- 1 Vehicle hoist
- 2 Control panel for vehicle hoist
- 3 Standing desk

| Room dimensions | in cm | in feet (approx.) |
|-----------------------|---------------|-------------------|
| Length, width, height | 550, 350, 300 | 18, 11, 10 |

| Technical equipment | Unit | |
|---------------------|------|---|
| Sockets | V/Hz | 220/50 or 110/60 |
| Network sockets | | Dätwyler Unipatch modular S2/8 (min. Cat6) Quante RJ 45 Modular Qmax (min. Cat6) |

High

The high version of the service reception is a closed room with at least one parking spot, one of which is equipped with a vehicle hoist (installed on floor level). It must be clearly visible and directly accessible from the showroom; any visual separation of these areas should be avoided.

In order to avoid any unnecessary manoeuvring, the high version can also be designed as a passageway solution (entrance with opposite exit to workshop or car park).

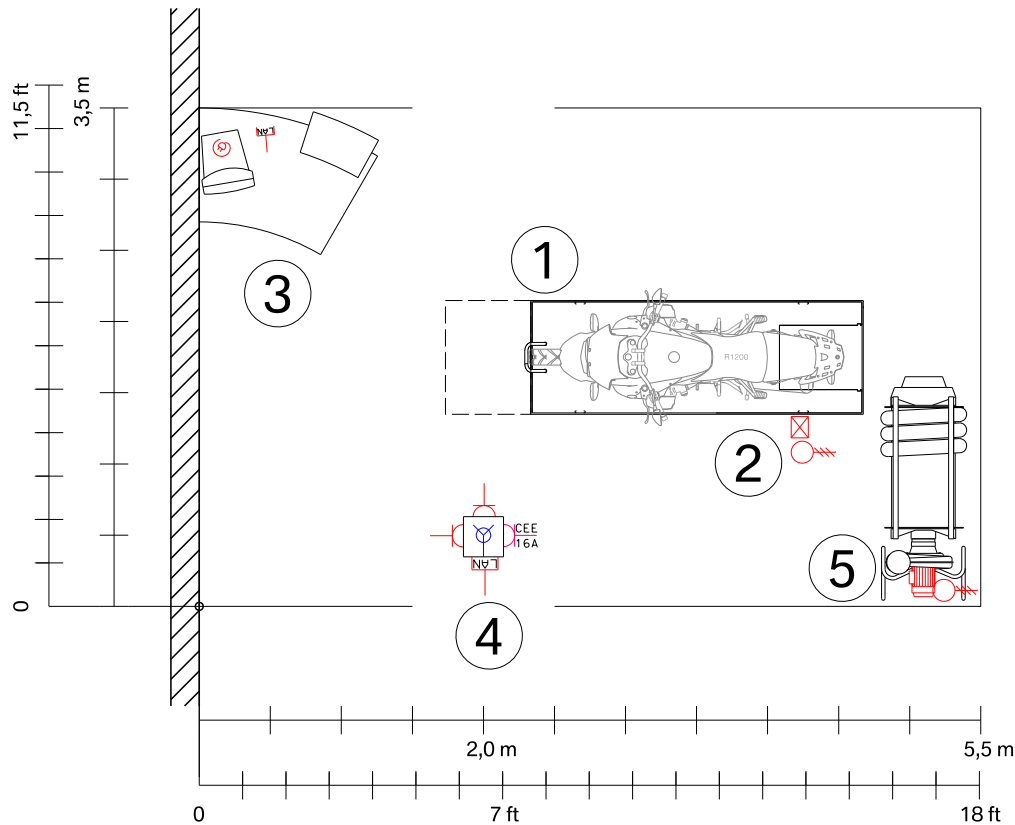


Diagram 5: Representation of the work bay for the “high version” of the service reception

Key:

- 1 Vehicle hoist
- 2 Control panel for vehicle hoist
- 3 Standing desk
- 4 Power supply head with LAN connection
- 5 Waste air extractor system (overhead)

| Room dimensions | in cm | in feet (approx.) |
|-----------------------|---------------|-------------------|
| Length, width, height | 550, 350, 300 | 18, 11, 10 |

| Technical equipment | Unit | |
|---------------------|------|---|
| Sockets | V/Hz | 220/50 or 110/60 |
| Network sockets | | Dätwyler Unipatch modular S2/8 (min. Cat6) Quante RJ 45 Modular Qmax (min. Cat6) |
| Compressed air | bar | 8 |

1.7.2 Workshop office

This room serves as a permanent work bay to the workshop master. It is equipped like an office, taking account of the workshop environment (PVC floor and easy-clean surfaces).

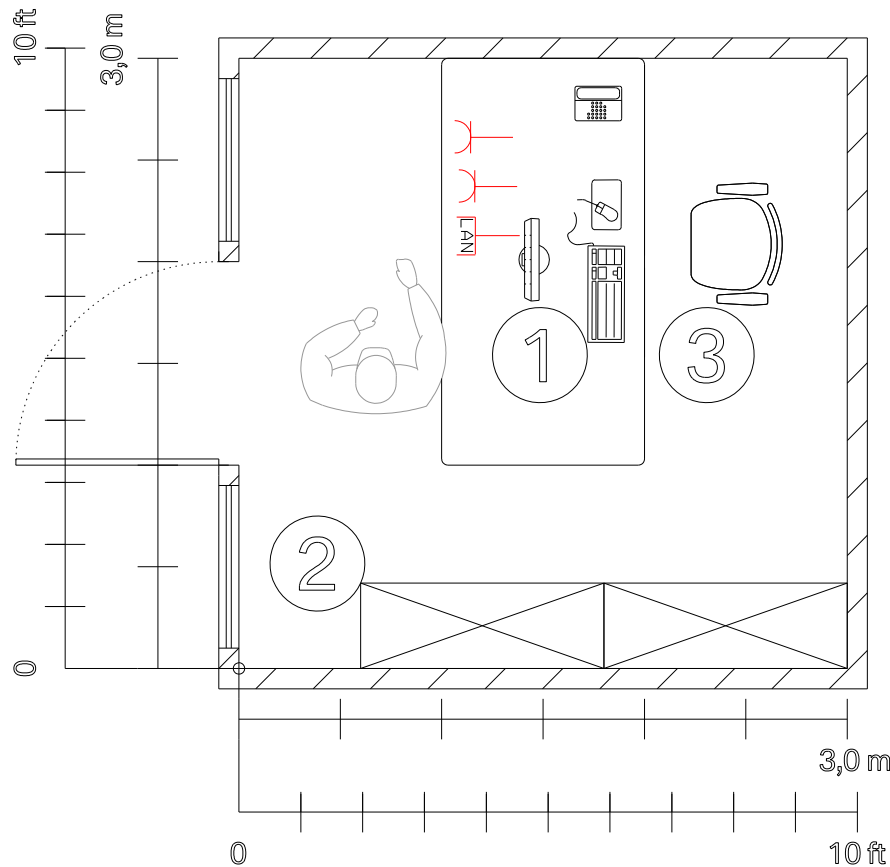


Diagram 6: Representation of the workshop office

Key:

- 1 Network-enabled PC
- 2 Filing cabinets
- 3 Chair and desk

| Room dimensions | in cm | in feet (approx.) |
|-----------------------|---------------|-------------------|
| Length, width, height | 300, 300, 240 | 10, 10, 8 |

| Technical equipment | Unit | |
|---------------------|------|---|
| Sockets | V/Hz | 250/50 or 110/60 |
| Fixed connection | V/Hz | 250/50 or 110/60 |
| Network sockets | | Dätwyler Unipatch modular S2/8 (min. Cat6) Quante RJ 45 Modular Qmax (min. Cat6) |

Note

This room should be positioned as centrally as possible within the workshop area. In smaller dealerships, it can be combined with the reception office. The room lighting must be at least 300 Lux.

1.7.3 Server room

This room houses the workshop server, e. g. ISIS. ISIS can also be integrated into an existing air-conditioned server room.

Motorbike dealerships are mainly connected to a central ISIS server via an online connection (MOS PC). In this case, no separate server is required.

1.7.4 Oil storage room

This room is used to store all water-endangering A III class fluids (oil, etc.).

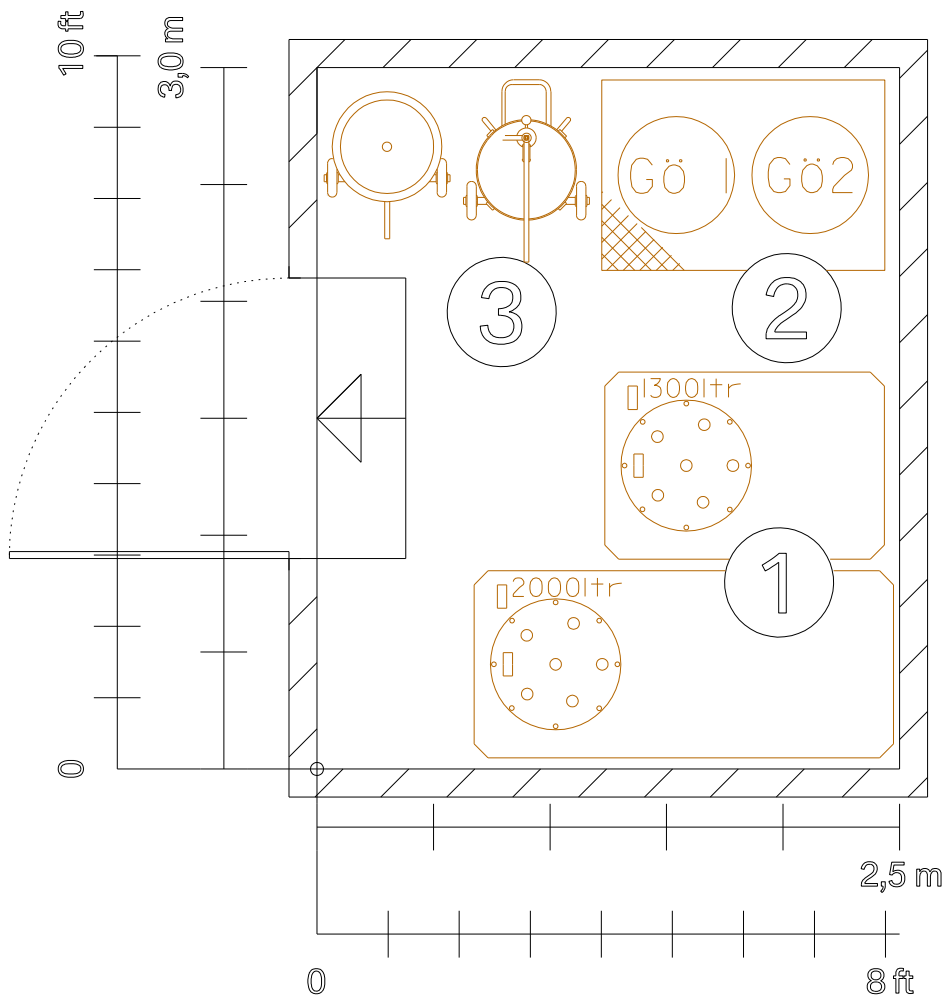


Diagram 7: Representation of oil storage room

Key:

- 1 Oil tank
- 2 Oil containers
- 3 Mobile oil equipment

| Room dimensions | in cm | in feet (approx.) |
|-----------------------|---------------|-------------------|
| Length, width, height | 250, 300, 240 | 8, 10, 8 |

| Oil lines | Material | Dimensions |
|-----------------------|----------|------------|
| Fresh oil and old oil | Metal | min. DN 20 |

Note

The room requires a leak-proof, oil and acid-resistant floor covering. The floor must be designed as a collecting basin (no connection to sewage system/floor drain). The catch volume must match the volume of the largest container in the room. A ramp must be installed in the door area (transport of mobile equipment). The door opening must be at least 1.2 m wide; the room temperature must not fall below +18° C (viscosity of lubricants). The room lighting must be at least 300 Lux.

From five work bays onwards, an automatic oil supply via a pump system can be provided.

1.7.5 Collecting station for residual materials and accident vehicles

For proper storage of residual materials and accident vehicles. Residual materials and accident vehicles should be stored in a suitable manner so that no environmentally harmful substances can escape. Additionally, accident vehicles must be stored safely so that any theft of parts or loss of value caused by environmental influences (e. g. rain, snow, etc.) can be avoided.

Parking area for repair vehicles: 15 – 20 square metres per work bay (see 1.2.1 Workshop space requirements). If these spaces are located outside the workshop, a canopy is essential.

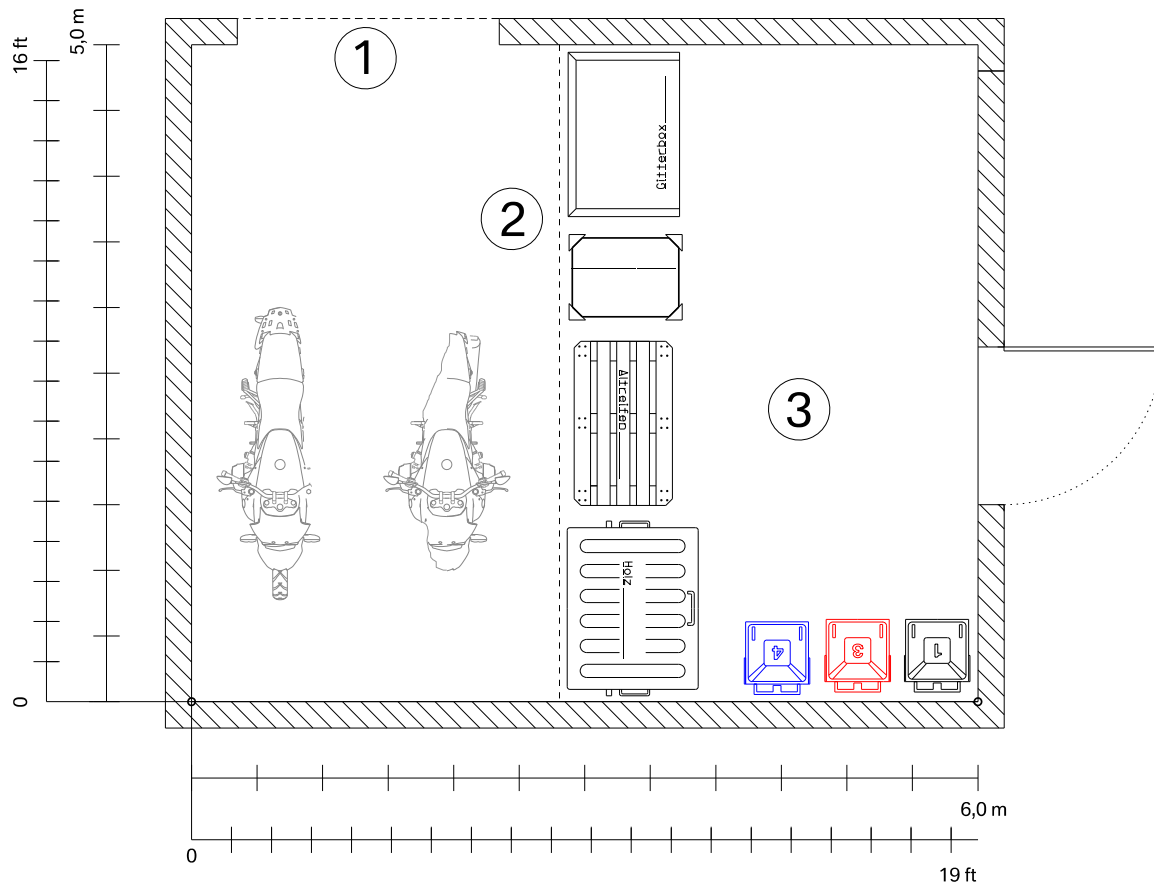


Diagram 8: Representation of collecting station for residual materials and accident vehicles

Legend

- 1 Grille rolling gate
- 2 Grille fence
- 3 Residual materials

| Room dimensions | in cm | in feet (approx.) |
|-----------------------|---------------|-------------------|
| Length, width, height | 600, 500, 240 | 20, 16, 8 |

Execution

Leak-proof floor, sealable and weather-protected.

Note

This area should be easily accessible from the workshop, but can be built separately from the main building. It should be easy to reach with accident vehicles. The pick-up of residual materials must be guaranteed by a disposal company. The room lighting must be at least 300 Lux.

1.7.6 Compressor room with compressed air system

Room for setting up the air compressor. The minimum pressure in the workshop must be 8 bar at the tapping point. The maximum compressor pressure should be 10 bar. The flow rate depends on the size of the workshop and the appliances in it. Consequently, precise calculations are necessary.

Compressor types: Screw or piston compressor (depending on consumption).

Plan in a cooling air supply and waste air opening. The supply opening must be dimensioned according to the intake capacity. The heat output corresponds approximately to the compressor's connected load. The room temperature must be maintained between ± 0 and $+35^{\circ}\text{C}$. The room lighting must be at least 300 Lux.

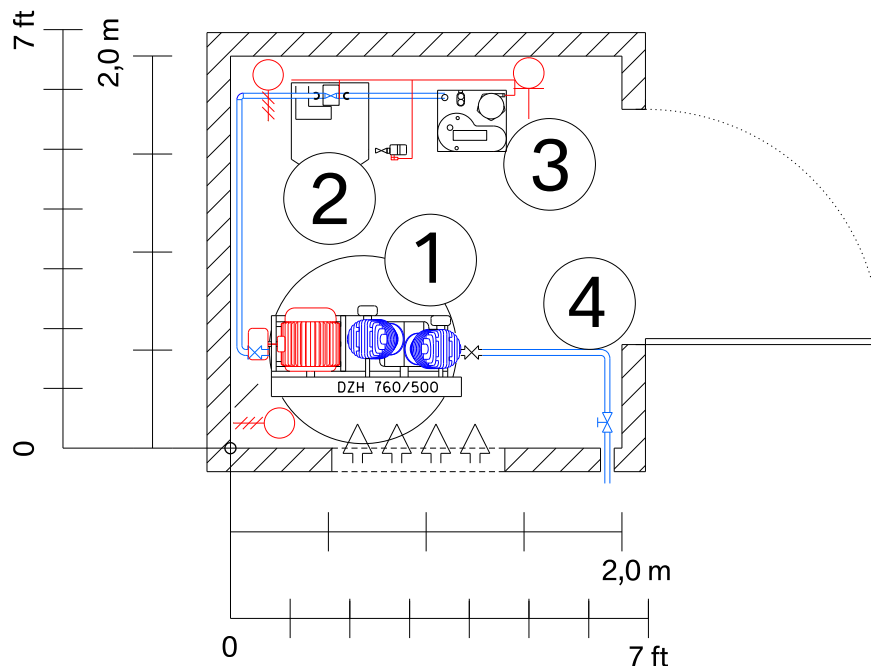


Diagram 9: Representation of compressor room with double piston compressor

Key:

- 1 Piston compressor with pressure accumulator
- 2 Refrigerant dryer
- 3 Oil and water separator with sewage connection
- 4 Compressed air line

| Room dimensions | in cm | in feet (approx.) |
|-----------------------|---------------|-------------------|
| Length, width, height | 200, 200, 240 | |

| Technical equipment | Unit | |
|---------------------|------|------------------|
| Fixed connection | V/Hz | 400/50 or 220/60 |
| Fixed connection | V/Hz | 250/50 or 110/60 |
| Lighting | Lux | 300 |

Note

Door opening at least 1.2 m wide. Sound insulation measures to be provided as required.

1.7.7 Washing hall

Separate hall with grille floor for the washing of vehicles. Ancillary room to accommodate washing equipment and water purification systems. The dimensions of the planned water purification system are dictated by local regulations.

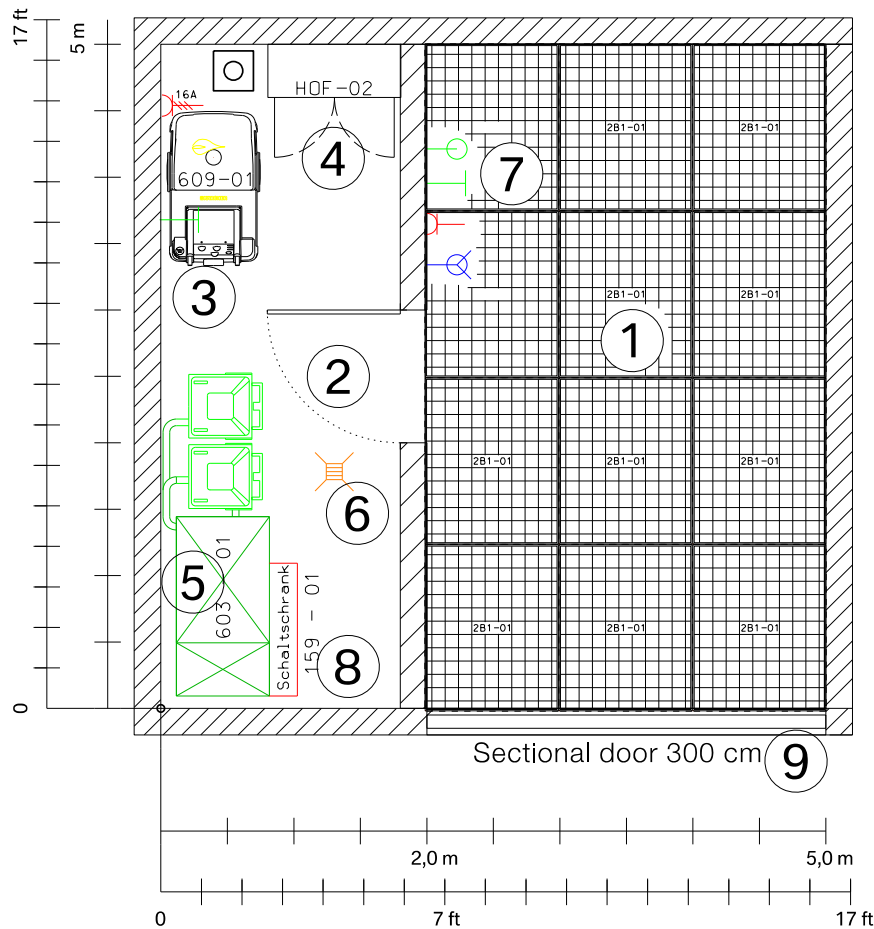


Diagram 10: Representation of washing hall

Key:

- 1 Latticed floor gridding (length 600 cm, width 400 cm), ideally whole-area gridding
- 2 Ancillary room (length 500 cm, width 200 cm, height 240 cm)
- 3 High-pressure cleaner
- 4 Shelves for cleaning agents
- 5 Water purification system
- 6 Sewage connection via petrol separator
- 7 Energy supply
 - Water tap
 - Socket (250 V/50 Hz or 110 V/60 Hz)
 - Socket (400 V/50 Hz or 250 V/60 Hz)
 - Fixed connection (400 V/50Hz or 250 V/60 Hz)
 - Compressed air plug connection
- 8 Switching cabinets
- 9 Sectional door (width 300 cm, height 270 cm)

| Room dimensions | in cm | in feet (approx.) |
|-----------------------|---------------|-------------------|
| Length, width, height | 500, 500, 240 | 16, 16, 8 |

Note

Whole-area gridding for the washing hall is recommended for the following reasons:

- Neat workshop appearance
- Reduced risk of accidents and slips
- Less cleaning required
- Simpler construction
- Lower installation costs
- No water collections on the floor

1.7.8 Warranty parts warehouse

For storing removed parts for later inspection or return for warranty claims.

| Room dimensions | in cm | in feet (approx.) |
|------------------------|---------------|--------------------------|
| Length, width, height | 200, 200, 240 | 7, 7, 8 |

Note

The warranty parts warehouse should be accommodated as a separate area in the parts warehouse. A sealed-off room is not absolutely necessary. Store room conditions prevail. The room lighting must be at least 300 Lux.

1.7.9 Assemblies and special tools room

For storing mobile workshop equipment, for setting up the tyre fitting equipment and wheel balancing machine; an area for repairing engines, gearboxes, etc.

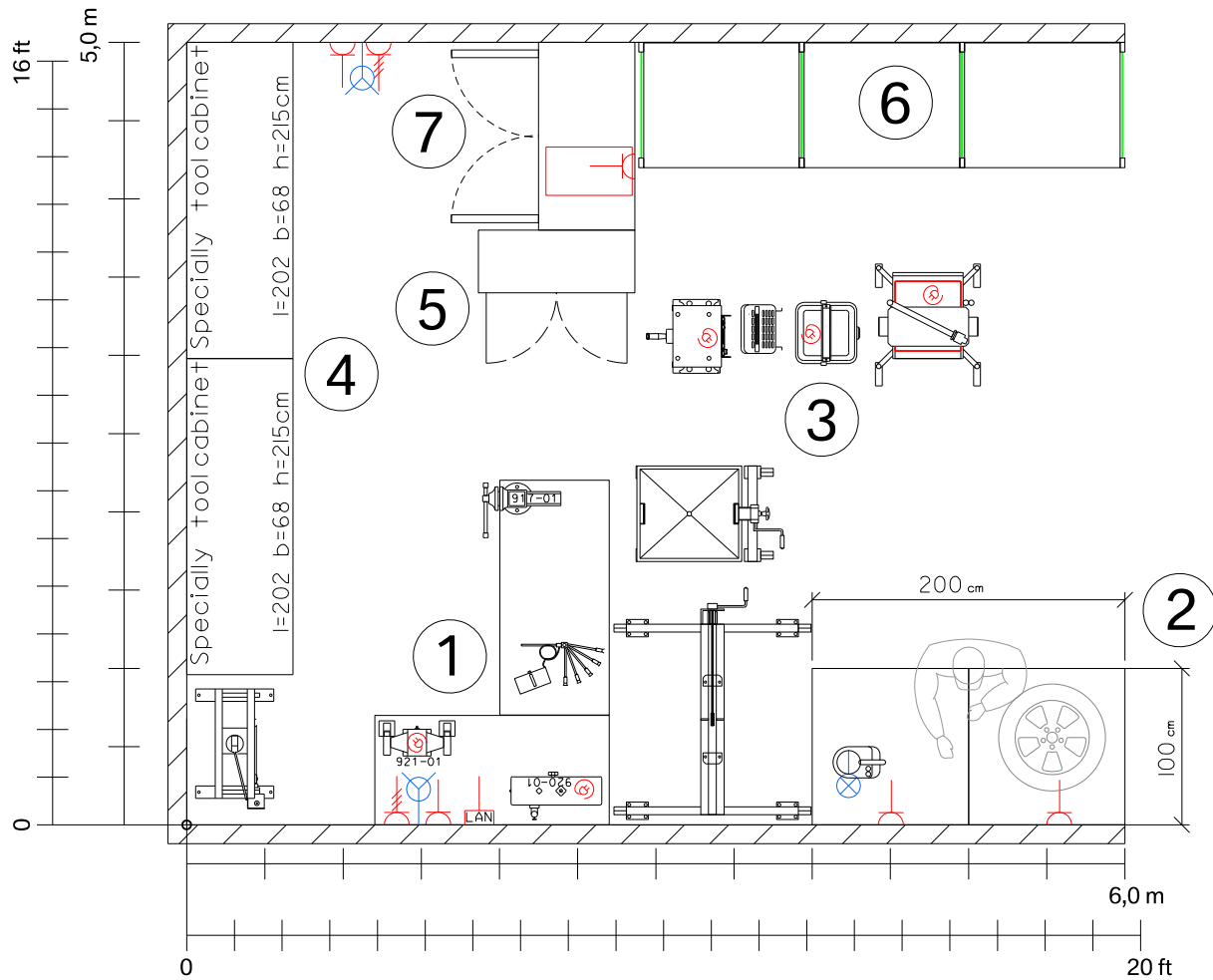


Diagram 11: Representation of assemblies and special tools room

Key:

- 1 Workbenches with vice
- 2 Tyre fitting, tyre cleaning and tyre balancing equipment
- 3 Mobile equipment
- 4 Special tools cabinet
- 5 Measuring cable cabinet
- 6 Shelves for central stands/workshop equipment
- 7 Hazardous substances cabinet

| Room dimensions | in cm | in feet (approx.) |
|-----------------------|---------------|-------------------|
| Length, width, height | 500, 600, 240 | 16, 20, 8 |

| Technical equipment | Unit | |
|---------------------|------|------------------|
| Power connections | V/Hz | 400/50 or 220/60 |
| Power connections | V/Hz | 250/50 or 110/60 |
| Compressed air | bar | min. 8 |

Note

This area can be designed open or closed (see 1.2.1 Workshop space requirements). Door opening for closed rooms min. 2.5 m wide. Energy and compressed air must be provided at regular intervals along the walls. The room lighting must be at least 500 Lux.

1.7.10 Battery room

In this room, connected to the workshop, the motorbike batteries are stored, filled and charged. Natural air supply and ventilation must be taken into account.

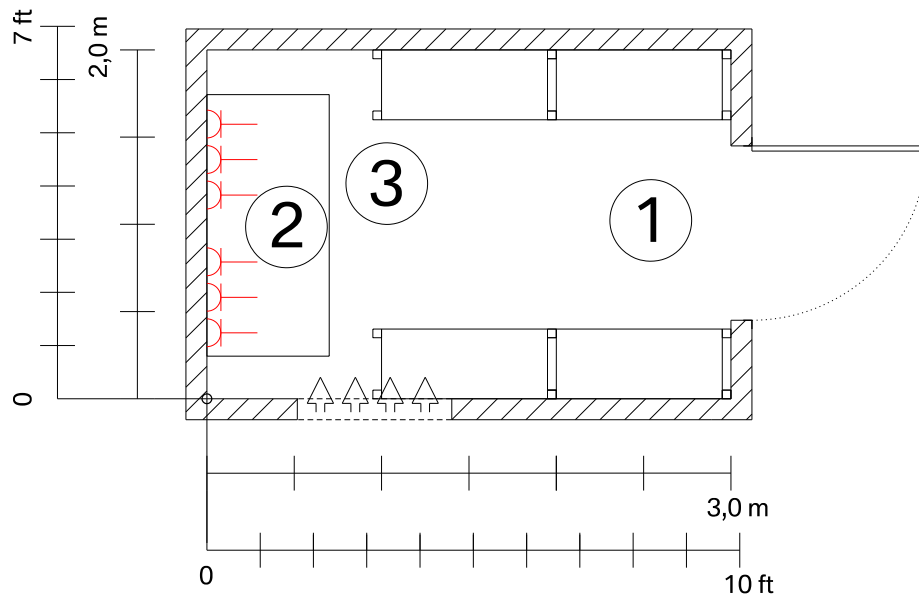


Diagram 12: Representation of battery room

Key:

- 1 Shelves for storing batteries
- 2 Connections for battery chargers
- 3 Workbench

| Room dimensions | in cm | in feet (approx.) |
|-----------------------|---------------|-------------------|
| Length, width, height | 300, 200, 240 | 10, 7, 8 |

| Technical equipment | Unit | |
|---------------------|------|------------------|
| Sockets | V/Hz | 250/50 or 110/60 |

Note

An adequate number of connections must be provided for battery chargers.

| Quantity | WS 1 – 2 | WS 3 – 4 | WS 5 – 6 |
|-------------|----------|----------|----------|
| Connections | 4 | 6 | 8 |

Store room conditions prevail, since this is not a permanent work bay. The room lighting must be at least 300 Lux.

1.7.11 Work bay for mechanical repairs

General work bay for maintenance and repair work on motorbikes.

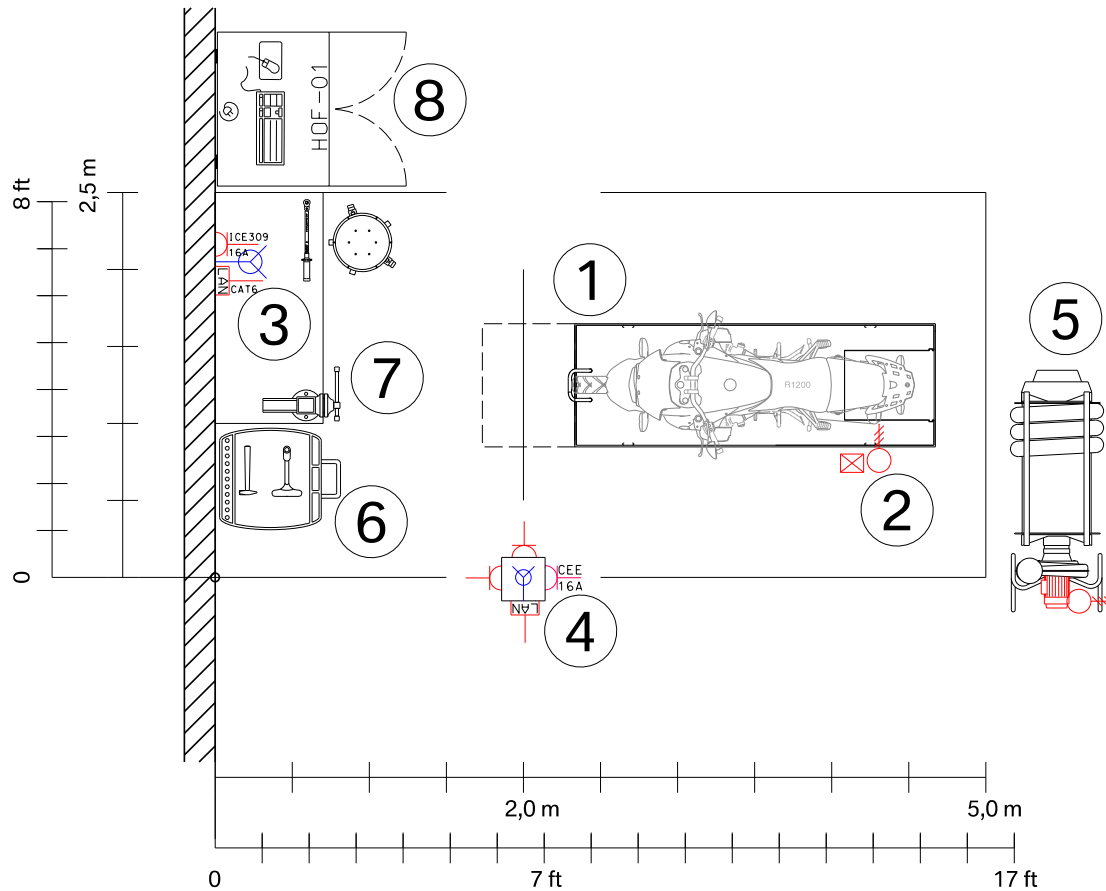


Diagram 13: Representation of work bay for motorbike repair

Legend

- 1 Vehicle hoist
- 2 Control panel for vehicle hoist
- 3 Energy supply
 - Socket (250 V/50 Hz or 110 V/60 Hz)
 - Compressed air plug connection
 - LAN connection
- 4 Power supply heads with LAN connection
- 5 Waste air extractor system (overhead or underfloor)
- 6 Tool carts
- 7 Workbench with vice
- 8 Workshop computer cabinet

| Room dimensions | in cm | in feet (approx.) |
|-----------------------|---------------|-------------------|
| Length, width, height | 500, 250, 300 | 16, 8, 10 |

Note

Before construction begins, the manufacturers' installation instructions and the foundation plans must be consulted due to the various detailed designs.

Where an underfloor waste air extractor system is chosen, care must be taken to ensure that the extractor's floor connections for motorbikes are dimensioned larger than the floor connections for vehicles.

Where individual motorbike work bays or work bays positioned against the wall are installed, a work bay width of 3 m must be provided.

The aisle between the work bays must be at least 3.5 m wide. Thus, an additional temporary parking spot in the aisle is provided for quick diagnoses or similar activities which allow customers' wishes to be responded to with maximum flexibility.



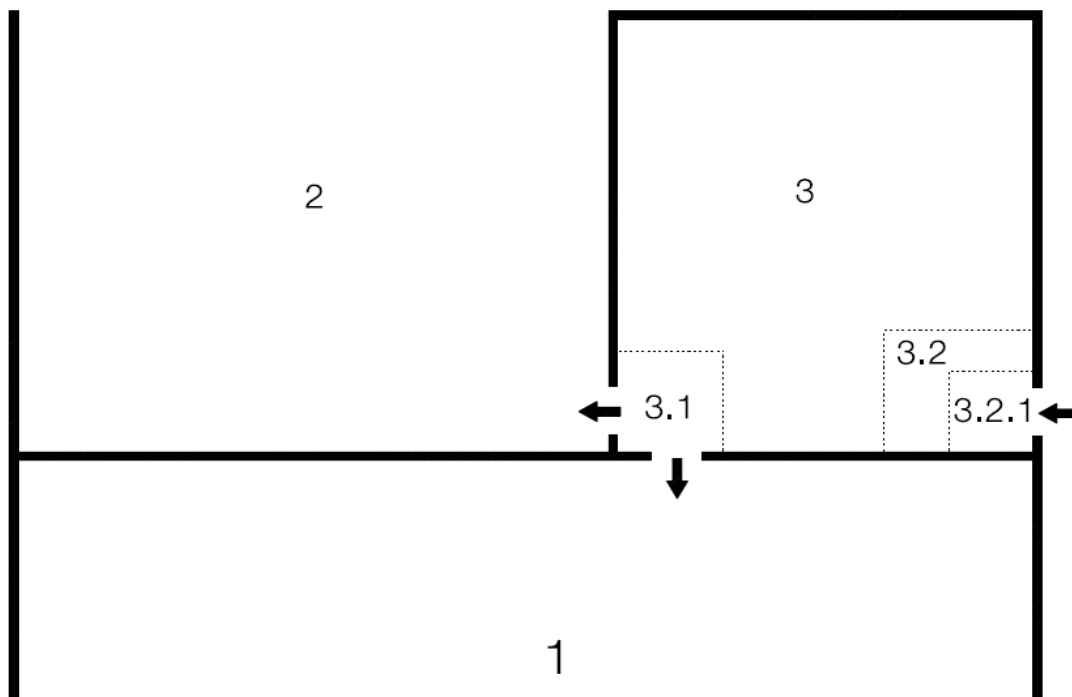
Diagram 14: Representation of work bay for motorbike repair

1.8 General requirements on the parts warehouse

The position of the parts warehouse in the overall project is of crucial importance for the overall function of a dealership. The BMW building standard recommends incorporating the “three point system” into the planning (see building standard). Accordingly, the parts issue for customers and the parts issue for the service staff can be carried out from one central location in the parts warehouse.

It is essential for the store to be arranged on the same level as the workshop.

The warehouse is divided into various areas, all of which contribute to an optimum workflow in the warehouse. The following chapters deal with these areas specifically.



Key:

- 1 Display, customer area
- 2 Workshop
- 3 Parts warehouse
- 3.1 Goods issue
- 3.2 Goods incoming, handover area, floor storage
- 3.3 Night deliveries

Further information about parts warehouses in BMW dealerships can be found in “BMW Group Planning Principles for Parts Warehouses 1.1” at www.bmwgroup-wep.com.

BV-58 can assist you during all planning phases **of new planning or restructuring projects of your warehouse.**