

# HYDAC

# INTERNATIONAL

## Nitrogen Charging Unit N<sub>2</sub> Server

HYDAC nitrogen charging units facilitate fast and cost-effective filling or topping up of the required gas pre-charge pressure in bladder, diaphragm and piston accumulators. They guarantee optimum use of commercially available nitrogen bottles up to a residual pressure of 20 bar and a maximum accumulator pressure of 350 bar.



## A) DESCRIPTION

Depending on the model, N<sub>2</sub> Server nitrogen charging units are suitable for charging small accumulators, and for pre-charging or topping up accumulator stations.

A piston accumulator is installed as the nitrogen pump.

N<sub>2</sub> Server nitrogen charging units are equipped with a pressure safety valve which complies with Pressure Equipment Directive 97/23/EC.

## B) TYPES OF N<sub>2</sub> SERVER

1. **N2S-M**  
Nitrogen charging unit  
N<sub>2</sub> Server Mobile
2. **N2S-T**  
Portable nitrogen charging unit  
N<sub>2</sub> Server, without oil supply unit
3. **N2S-V**  
Portable nitrogen charging unit  
N<sub>2</sub> Server, with oil supply unit
4. **N2S-F**  
Mobile nitrogen charging unit  
N<sub>2</sub> Server
5. **N2S-S**  
Stationary nitrogen charging unit  
N<sub>2</sub> Server

## C) SAFETY INFORMATION

When charging hydraulic accumulators or accumulator systems, if the permissible operating pressure of the accumulator system is lower than the pressure in the nitrogen bottles used for filling, a pressure reducer valve must be connected to the gas bottle and must be adjusted to the required pre-charge pressure. (Please also refer to brochure no. 3.501, Charging and Testing Unit FPU-1)

Hydraulic accumulators must only be filled with nitrogen N<sub>2</sub> (oxygen-free), and not with oxygen or air.

**Danger of explosion!**

## D) COMMISSIONING

In accordance with the operating instructions supplied with the unit.

## E) NOTE

The information in this brochure relates to the operating conditions and applications described. For applications or operating conditions not described, please contact the relevant technical department. Subject to technical modifications.

# 1. NITROGEN CHARGING UNIT N<sub>2</sub> SERVER MOBILE N2S-M

## 1.1. DESCRIPTION

The nitrogen charging unit N<sub>2</sub> Server N2S-M is suitable for charging small accumulators or for topping up the gas pre-charge pressure in large accumulator stations.

It consists of an oil supply unit, the electrical and hydraulic controls, the piston accumulator and the connection hoses.

The hydraulic and electrical operating controls are grouped together ergonomically on the front panel.

The nitrogen charging unit N<sub>2</sub> Server N2S-M is extremely compact and can be moved easily by one person.

## 1.2. TECHNICAL SPECIFICATIONS

### General:

Total weight of the unit when full:  
approx. 98 kg

Ambient temperature:  
-15 °C to +50 °C

### Hydraulic details:

Operating pressure of hydraulic fluid: 320 bar max.

Pressure gauge indication range:  
0 – 400 bar

Flow rate: 0.9 l/min

Tank size: approx. 8 l

Hose connection:

– bottle side: W 24.32 x 1/14"  
– accumulator side: cap screw  
M 14 x 1.5 DIN 2353

Hose length:

– bottle side: 4 m  
– accumulator side: 3m

Capacity of piston accumulator:  
1 l

### Electrical details:

Three-phase motor:

230/400 V – 50 HZ

Output: 0.75 kW

Safety type: IP 55

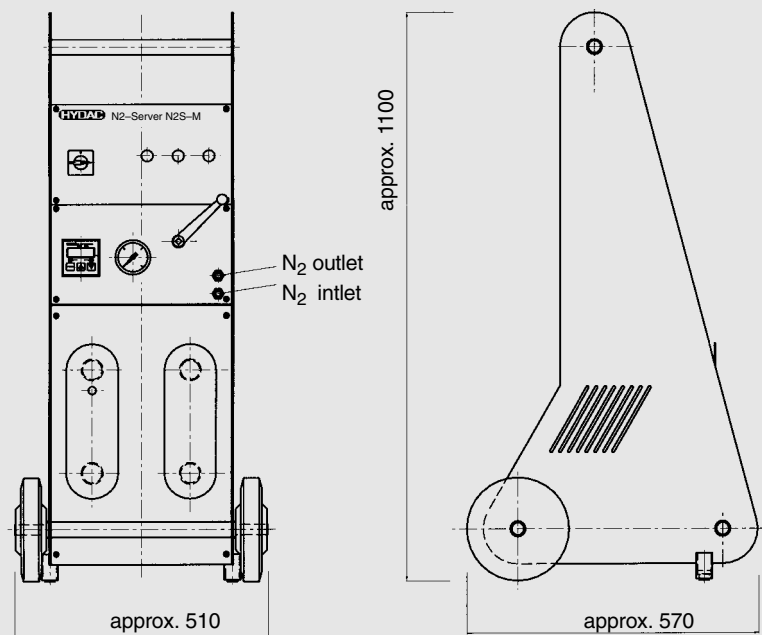
Electrical connection: CEE plug,  
5-pole, 16 Amp for 400 V

Cable length: 5 m

Other voltages on request.



## 1.3. DIMENSIONS



## 2. PORTABLE NITROGEN CHARGING UNIT N<sub>2</sub> SERVER WITHOUT OIL SUPPLY UNIT N2S-T

### 2.1. DESCRIPTION

The nitrogen charging unit N<sub>2</sub> Server N2S-T is suitable for charging small accumulators or for topping up the gas pre-charge pressure in large accumulator stations.

It consists of a piston accumulator and the electrical and hydraulic controls.

The nitrogen charging unit N<sub>2</sub> Server N2S-T must be connected to an existing hydraulic system.

The user must ensure that the pump flow rate of the hydraulic unit does not exceed 8 l/min.

### 2.2. TECHNICAL SPECIFICATIONS

#### General:

Dimensions:

Height: 300 mm

Width: 260 mm

Length: 600 mm

Total weight: 25 kg

Ambient temperature:

-15 °C to +50 °C

#### Hydraulic details:

Operating pressure of hydraulic fluid: 300 bar max.

Hose connection:

- bottle side: W 24.32 x 1/14"

- accumulator side: cap screw

M 14 x 1.5 DIN 2353

Hose length:

- bottle side: 4 m

- accumulator side: 3m

Capacity of piston accumulator:

1.5 l

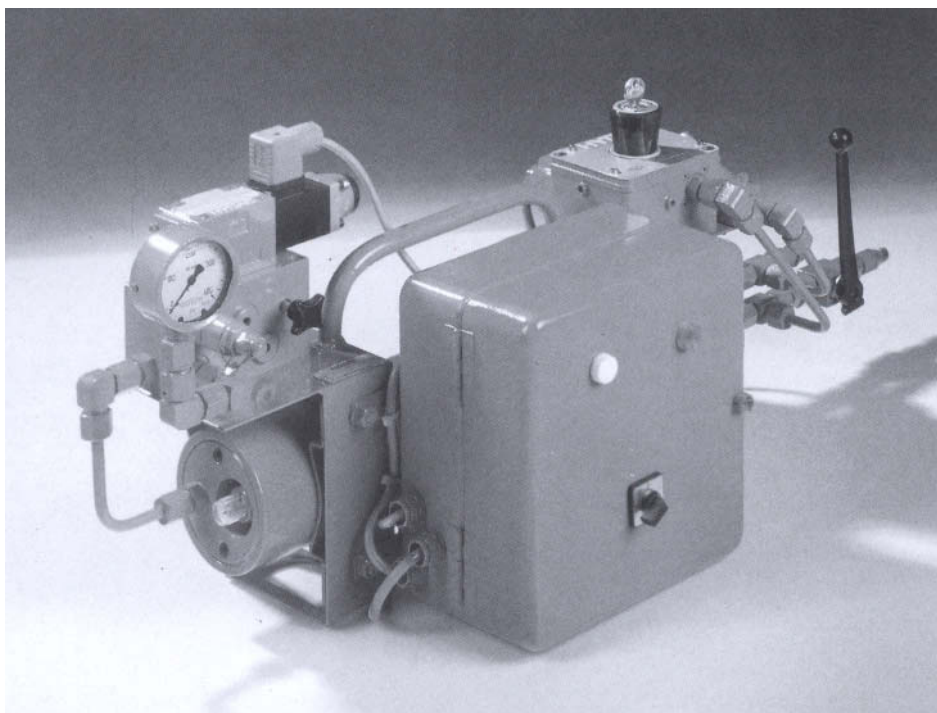
#### Electrical details:

Electrical connection:

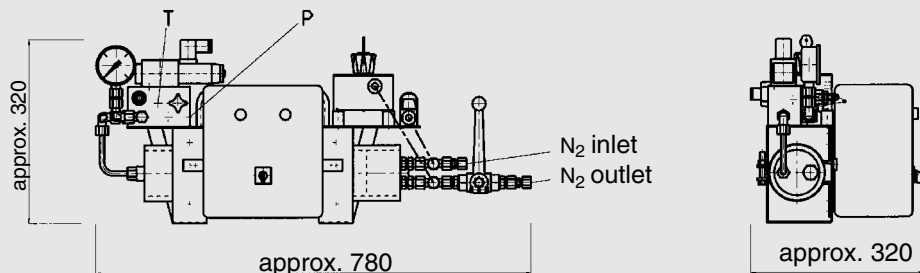
earthing contact-type plug,  
industrial model 230 V - 50 Hz

Cable length: 1 m

Other voltages on request.



### 2.3. DIMENSIONS



### 3. PORTABLE NITROGEN CHARGING UNIT N<sub>2</sub> SERVER WITH OIL SUPPLY UNIT N2S-V

#### 3.1. DESCRIPTION

The nitrogen charging unit N<sub>2</sub> Server N2S-V is suitable for charging small accumulators or for topping up the gas pre-charge pressure on large accumulator stations.

It consists of an oil supply unit, the electrical and hydraulic controls, a piston accumulator and the connection hoses.

#### 3.2. TECHNICAL SPECIFICATIONS

##### General:

Total weight of the unit when full:  
approx. 46 kg

Total weight of the piston  
accumulator: approx. 35 kg

Ambient temperature:  
-15 °C to +50 °C

##### Hydraulic details:

Operating pressure of hydraulic  
fluid: 350 bar max.

Pressure gauge indication range:  
0 – 400 bar

Flow rate: 1.6 l/min

Tank size: approx. 13 l

Hose connection:

– bottle side: W 24.32 x 1/14"

– accumulator side: cap screw

M 14 x 1.5 DIN 2353

Hose length:

– bottle side: 4 m

– accumulator side: 3m

Capacity of piston accumulator:  
1.5 l

##### Electrical details:

Three-phase motor:

230/400 V – 50 HZ

Output: 1.1 kW

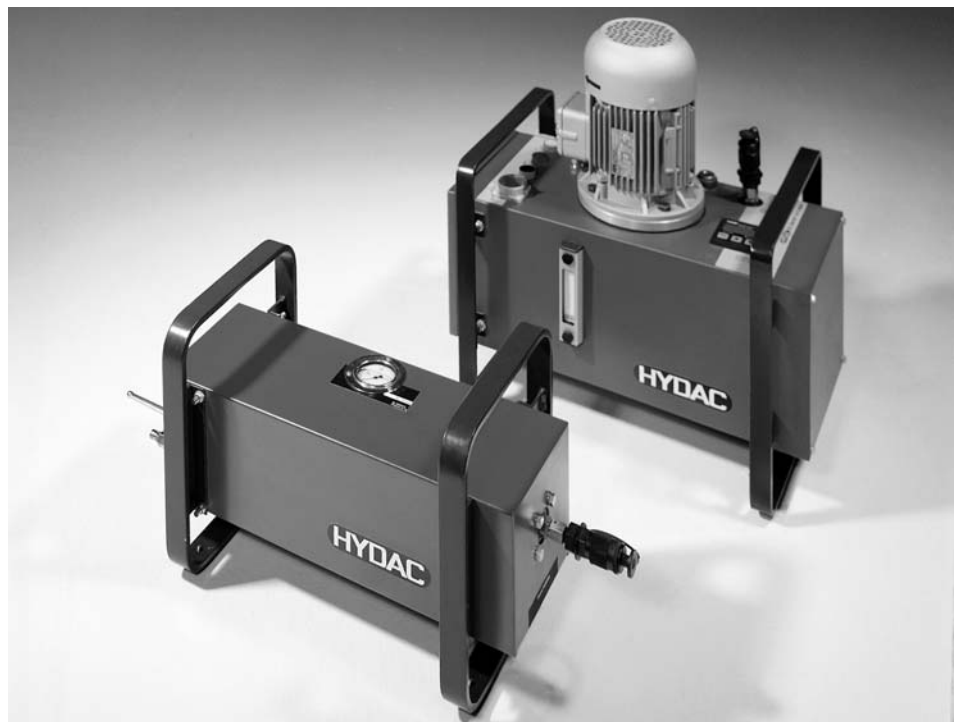
Safety type: IP 55

Electrical connection:

CEE plug, 5-pole, 16 Amp for  
400 V

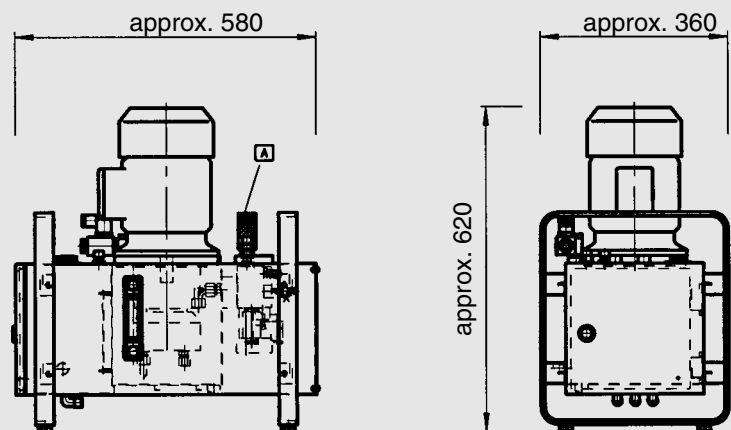
Cable length: 1 m

Other voltages on request.

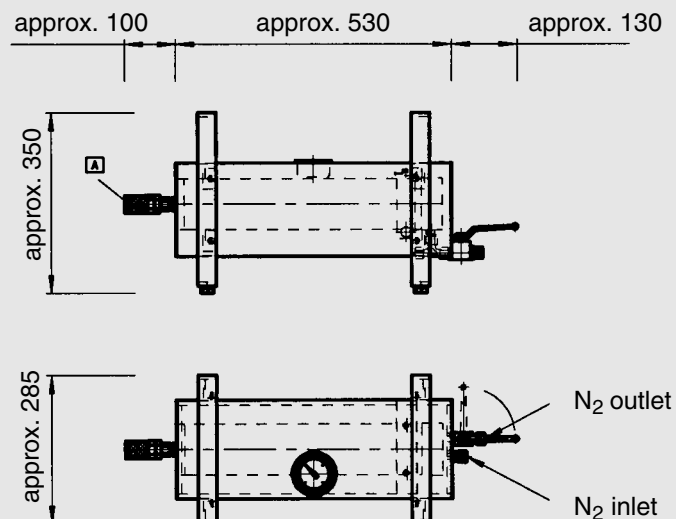


#### 3.3. DIMENSIONS

##### Oil supply unit



##### Compressor



## 4. MOBILE NITROGEN CHARGING UNIT N<sub>2</sub> SERVER N2S-F

### 4.1. DESCRIPTION

The nitrogen charging unit N<sub>2</sub> Server N2S-F is designed for charging large accumulator systems.

It consists of a complete power pack, piston accumulator, electrical controls and hoses, compactly mounted on a trolley. A charging and testing unit FPU is supplied with the server.

### 4.2. TECHNICAL SPECIFICATIONS

#### General:

Total weight of the unit when empty: approx. 380 kg

Ambient temperature:  
-15 °C to +50 °C

#### Hydraulic details:

Operating pressure of hydraulic fluid: 350 bar max.

Pressure gauge indication range:  
0 – 400 bar

Flow rate: 8 l/min

Tank size: approx. 40 l

Hose connection:

– bottle side: W 24.32 x 1/14"

– accumulator side: cap screw

M 14 x 1.5 DIN 2353

Hose length: both 4 m

Capacity of piston accumulator:  
2.5 l

#### Electrical details:

Three-phase motor:

230/400 V – 50 Hz

Output: 5.5 kW

Safety type: IP 55

Electrical connection:

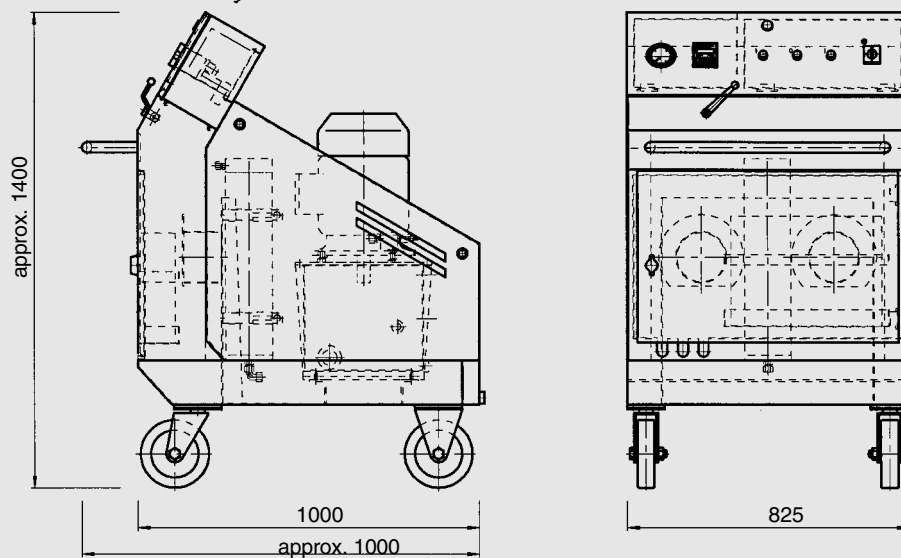
CEE plug, 5-pole, 16 Amp for  
400 V

Cable length: 10 m

Other voltages on request.



### 4.3. DIMENSIONS



## 5. STATIONARY NITROGEN CHARGING UNIT N<sub>2</sub> SERVER N2S-S

### 5.1. DESCRIPTION

The nitrogen charging unit N<sub>2</sub> Server N2S-S is identical to the mobile nitrogen charging unit N<sub>2</sub> Server N2S-F as far as the hydraulic and electrical controls are concerned.

The difference lies in the construction, which is intended for stationary applications.

### 5.2. TECHNICAL SPECIFICATIONS

See point 4.2.



### 5.3. DIMENSIONS

