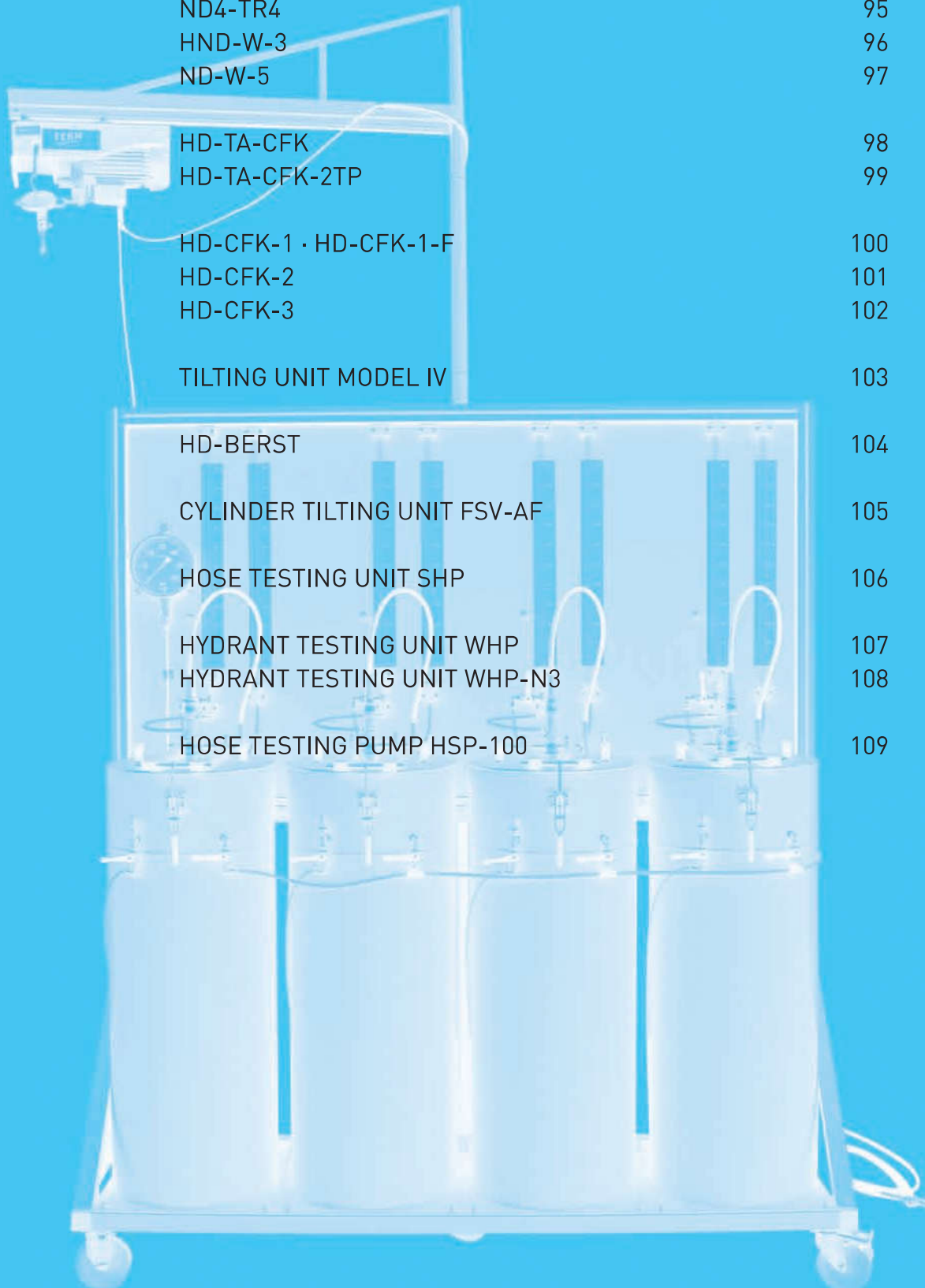


HIGH- & LOW-PRESSURE UNITS

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High-Pressure testing unit, model HD1+1

Combined stationary High-Pressure testing unit HD1+1 for testing of pressure cylinders.



Pressure test:

- » Testing unit to test CO₂-extinguishers, steel bottles or similar with large conical CO₂ female thread (W21,8 x 1/14")
- » max. diameter: 140 mm
- » min. diameter: 60 mm
- » max. admitted height: 1100 mm
- » Two separate clamping positions, equipped with quick-adaptor. These are equipped with ascending pipes according to the size of the cylinder
- » Adaptation of the cylinder at the quick-adaptor; the cylinder is placed head down on the adaptor
- » Clamping of cylinder is effected pneumatically
- » Control of the complete procedure by SPS
- » Testing procedure is started manually by button, operation works automatically by SPS
- » During pressure raise the testing area is protected by a sliding door. Water filling comes out of the water tank through the pressure line directly into the pressure tank
- » Pressure build-up by compressed-air driven one piston pump (all parts getting in touch with water are made of special steel)
- » Pressure indication by sensor which is shown on a digital display
- » Disconnection at the preset pressure is automatically; indication of the present pressure at the display
- » Control of pressure after adjusted stop period is automatically; signalling when pressure test has been unsuccessful
- » In case of successful test, the cylinder is emptied automatically by compressed-air assistance. Water gets directly into the water tank
- » Pressure test is effected on each cylinder separately
- » Pressure test: High-Pressure 0 – 250 bar
- » Pressure test is effected mutually
- » Fast emptying of the cylinders by blowing the water out by compressed-air
- » Illumination of the unit

Optional available at extra charge:

- » Control system to memorize data by PC
- » Possibility to adjust data of cylinder by keyboard
- » Indication and printing of pressure course by software program with display

**TECHNICAL DATA**

Dimensions (l x w x h) switch box and control unit:	approx. 2200 x 2200 x 950 mm
Compressed-air:	1/2"
Connection for water supply of pressing pump:	1/2"
Connection for water emptying:	1"
Motor:	230 V, 50 Hz, 10 A
Filling pump:	230 V
Drive of High-Pressure pump:	max. 10 bar

Stationary High- and Low-Pressure testing unit, model HD-ND2+2



In High-Pressure with 2 testing connections to test: CO₂-bottles/-cartridges and -fire extinguishers, breathing air apparatus, diving bottles, gas-bottles.

High-Pressure test

Consisting of:

- » 2 High-Pressure hoses (0.8 m)
- » plug-in coupling and each with 2 plug-in adaptors with large or small conical CO₂-thread
- » Lockable valves for individual testing
- » Relief valve to relieve the testing line
- » Pipework made of High-Pressure Ermetho pipes
- » Compressed-air driven High-Pressure pump
- » Disconnectable pressure display with pressure gauge (600 bar)
- » Automatic disconnection when reaching the requested test pressure by pressure gauge

In Low-Pressure with 2 testing connections to test fire extinguishers as well as cylinders up to max. 30 bar.

The HD-ND2+2 High- and Low-Pressure testing unit with integrated water tank to fill extinguishers or cylinders by submergible pumps.

Low-Pressure test

Consisting of:

- » 2 Low-Pressure hoses (0.8 m) with plug-in coupling
- » 2 universal Low-Pressure adaptor
- » Lockable valve for individual testing
- » Relief valve to relieve the testing line
- » Compressed-air driven Low-Pressure pump
- » Disconnectable pressure display with pressure gauge (40 bar)
- » Test pressure 0 – 40 bar
- » Automatic disconnection when reaching the requested test pressure by pressure gauge

Optional available at extra charge:

- » Digital gage
- » Equipped with safety protection cover



TECHNICAL DATA

Dimensions (l x w x h):	approx. 450 x 1000 x 1900 mm
Dimensions of the cylinder to be tested:	max. height: 730 mm Ø max.: 210 mm
Connection for water supply of pressing pump:	1/2"
Motor:	230 V, 10 A, 50 Hz
Compressed-air:	8 – 10 bar
Colour:	hammer finish painted blue or silvergrey

Stationary High- and Low-Pressure testing unit, model HD-ND3+3

Combined stationary High- and Low-Pressure testing, model HD-ND3+3 for testing of extinguishers and pressure cylinders. The unit is made of aluminium with two areas each with a clamping-tilting support for 3 cylinders.



Pressure testing unit for powder extinguishers, CO₂-cylinders, steel bottles, breathing air apparatus etc. with the following dimensions:

- » max. diameter: 80 – 200 mm
- » max. admitted height: 730 mm

The water is collected inside the water collecting basin and transported by diving pump through a separate pipe-work for filling of the cylinder. Pressure test is effected separately for each area (right or left side).

High-Pressure test area: 0 – 450 bar
Low-Pressure test area: 0 – 30 bar

Optional available at extra charge:

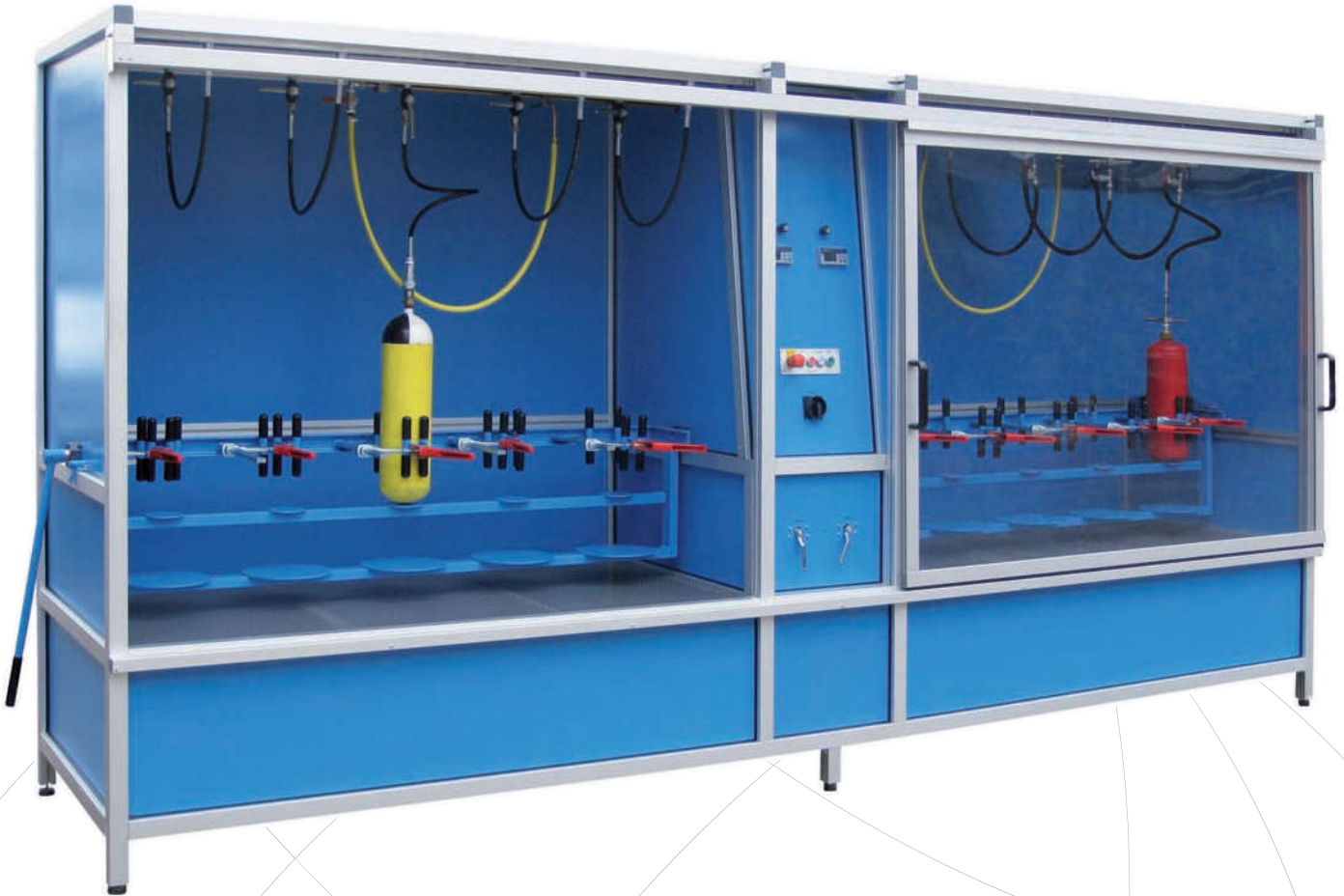
- » Numbers of testing connections according to customer concern
- » Electric tilting device
- » Pneumatic clamping device
- » Integrated drying unit
- » Pressure sensor with digital display



TECHNICAL DATA

Dimensions (l x w x h):	approx. 2600 x 2200 x 900 mm
High-Pressure pump:	compressed-air driven, 600 bar
Low-Pressure pump:	compressed-air driven, 40 bar
Submersible pump:	0.25 kW, 230 V
Water basin:	2 pcs. – 300 ltr. capacity, aluminium
Compressed-air:	1/4"
Connection for water supply of pressing pump:	1/2"
Motor:	230/400 V, 10 Amp, 50 Hz
Colour:	according to customer wish
Accessory:	<ul style="list-style-type: none"> » 3 universal Low-Pressure adaptors » 3 screwed adaptors (small conical CO₂-thread) » 3 screwed adaptors (large conical CO₂-thread)
Optional:	<p>Locking device:</p> <p>quick acting locking device/crank locking device</p>

High-Pressure testing unit, model HD-ND5+5



Optional available at extra charge:
» High-Pressure testing adaptor, small conical; alternative: big conical

TECHNICAL DATA

Dimensions (l x w x h):	approx. 4000 x 1000 x 2000 mm
Compressed-air:	10 – 12 bar
Test pressure:	max. 450 bar
Motor:	230/400 V, 50 Hz, 10 A
Colour:	hammer finish painted blue or silvergrey



Low-Pressure testing unit with drying, model ND4-TR4



Stationary Low-Pressure testing unit to test and dry fire extinguishers as well as pressure cylinders of all types up to 40 bar.

The unit consists of four test stations with automatic cut-off and four drying stations. The continuously adjustable drying fan creates up to 600°C.

Optional available at extra charge:
» High-Pressure testing adaptor, big conical with quick action clamping

TECHNICAL DATA

Dimensions (l x w x h):	approx. 2500 x 2500 x 2000 mm
Compressed-air:	min. 6 bar
Test pressure:	max. 40 bar
Motor:	3 x 380 V, 50 Hz, 18 A
Colour:	hammer finish painted blue or silvergrey



Combined stationary High- and Low-Pressure testing unit for wall assembly with 3 connections, model HND-W-3.

The High- and Low-Pressure testing unit, model HND-W-3 is a testing unit with 3 connections for wall assembly. It is suitable for testing of powder- and CO₂-fire extinguishes, CO₂ bottles, breathing air apparatus, diving bottles, N₂ cylinders etc. of all sizes, dimensions and types.

Unit consists of:

- » 3 testing connections à 1,5 m equipped with quick-type coupling
- » 3 plug-in adaptors large conical and 3 plug-in adaptors small conical) further adaptors with different sizes on demand as extra
- » 3 universal Low-Pressure adaptors
- » Lockable valves for separate test
- » Relief valve
- » High-Pressure Ermetho piping
- » Compressed air driven High-Pressure pump
- » Pressure gauge 0 – 600 bar (High-Pressure)

* available with any numbers of connections

- » Pressure gauge 0 – 60 bar (Low-Pressure)
- » Safety valve 40 bar (Low-Pressure)



TECHNICAL DATA

Dimensions (l x w x h):	approx. 1600 x 400 x 2000 mm
Mounting height:	approx. 1700 mm
Water connection:	1/2"
Compressed-air:	8 – 9 bar (according to max. test pressure for High-Pressure)
Colour:	hammer finish painted blue or silvergrey

Optional available at extra charge:

- » Unit equipped with further testing connections according to customer need
- » Water bassin
- » Safety protection cover

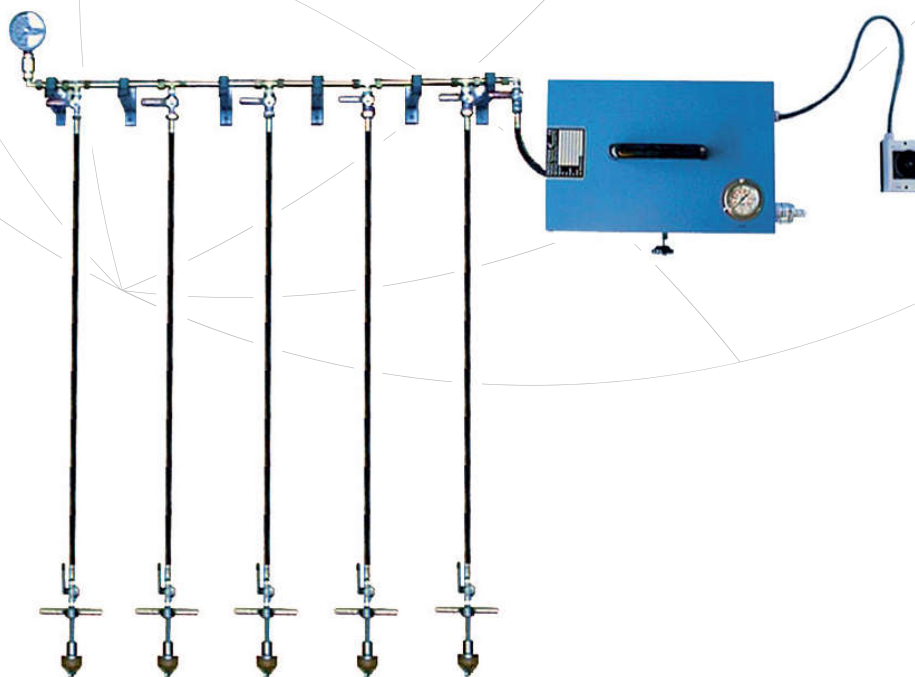
Low-Pressure testing unit with 5 connections, model ND-W-5

* available with any numbers
of connections

Low-Pressure testing unit for the testing of fire extinguishers as well as pressure cylinders of any type up to 40 bar. The unit is prepared for wall mounting.

The unit consists of:

- » Collecting pipe with 5 testing connections and universal adaptor for extinguishers and pressure cylinders
- » Screwable testing adaptors for fire extinguishers and pressure cylinders
- » Lockable valves for individual testing
- » Control pressure gauge 60 bar
- » Safety valve up to 40 bar
- » Fine regulation for adjustment of the requested testing pressure
- » Relief valve to relieve the testing line

**TECHNICAL DATA**

Testing pressure:	max. 40 bar
Motor:	230 V, 50 Hz, 16 A
Water connection:	1/2"
Weight:	approx. 50 kg
Dimensions (l x w x h):	approx. 1500 x 300 x 1200 mm
Colour:	hammer finish painted blue or silvergrey

Optional available at extra charge:

- » Unit can be extended with additional testing connections according to requirements

The High-Pressure testing unit, model HD-TA-CFK is for the pressure test of CFK-bottles with a water volume up to 7 l and a test pressure up to 450 bar.

Pressure test is effected in water jacket method. This means the volumetric expansion of the tested cylinder is measured and indicated by a measuring tube.

The unit is equipped with a High-Pressure pump with automatic cut-off and an electrically operated pulley to put the bottles into the test chamber.

Maximum admitted dimensions of the pressure cylinders:

Max. diameter:	300 mm
Max. height:	600 mm
Max. volume:	18 l
(Other dimensions on request)	



TECHNICAL DATA

Dimensions (l x w x h):	approx. 2600 x 1400 x 500 mm
Construction:	aluminium construction
Test chamber:	aluminium
Weight:	approx. 125 kg
Working pressure:	max. 450 bar
Water connection:	1/2" male thread

Automatic hydrotest unit for volumetric expansion of fibre carbon cylinders model HD-TA-CFK-2TP.



The unit HD-TA-CFK-2TP is designed for the High-Pressure test of fibre carbon cylinders, to show, record and save the result of the volumetric expansion.

The steady expansion of the tested cylinder will be shown in a diagramm and can be printed or saved. The testing unit can be used as mobile and is equipped with 4 wheels.

Maximum admitted dimensions of the pressure cylinders:

Max. diameter:	300 mm
Max. height:	600 mm
Max. volume:	18 l
(Other dimensions on request)	

Unit consists of:

- » 1 pc. Siemens computer with touchpad
- » 1 pc. colour laser printer
- » 2 pcs. aluminium test tubes
- » 1 pc. digital flow meter

Accessories:

- » 2 High-Pressure adaptor large conical
- » 2 High-Pressure adaptor M18 x 1,5

Accessories available at extra charge:

- » Electrically pulley to put the cylinders into the test tube
- » Separate test tube for big steel cylinders

TECHNICAL DATA

Dimension (l x w x h):	approx. 1700 x 1000 x 2250 mm
Construction:	aluminium construction
Testtube:	2 pcs. aluminium
Dimension testtube:	Ø 400 mm, height 1000 mm
Weight (empty):	approx. 245 kg
Working pressure:	max. 450 bar
Compressed-air:	approx. 6 – 8 bar
Motor:	230 V, 16 A, 50 Hz
Colour:	hammer finish painted blue

High-Pressure test module for measuring the volumetric expansion of the cylinder made of composite, aluminium and steel.

The movable High-Pressure test module HD-CFK-1 is for pressure test of cylinder made of composite, steel or aluminium with a water volume up to 9 l and a test pressure of 450 bar. The pressure test is effected with a volumetric expansion method (water jacket). The volumetric expansion of the cylinder to be tested is measured and indicated by a measuring tube.

Test pressure has to be made by an external pressure pump which is not included in delivery. The unit can be attached to all High-Pressure units as additional module.

Maximum admitted dimensions of the test cylinder:

Max. diameter: 300 mm
 Max. height: 600 mm
 Max. volume: 18 l
 (Other dimensions on request)



The module is equipped with:

- » Test chamber made of aluminium
- » Cover with quick clamp device
- » 2 pieces measuring tube up to 100 ml volume
- » 1 piece screwed adaptor large conical
- » 1 piece screwed adaptor M18x1,5

HD-CFK-1-F

(No. 401 100)



TECHNICAL DATA

Dimensions (l x w x h):	approx. 500 x 600 x 2150 mm
Construction:	aluminium construction
Water connection:	1/2"
Weight (empty):	approx. 60 kg
Working pressure:	max. 450 bar
Colour:	hammer finish painted blue

Optional available at extra charge:

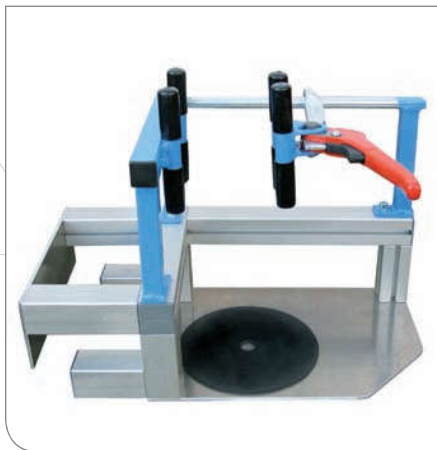
- » Manual/ electric lift-integrated high-pressure pump (model HD-CFK-1P)
- » The pressure module can be equipped with more or less test chambers
- » Module stationary for wall mounting (model HD-CFK-1W)
- » Screwed adaptor, e.g. small-conical, M25x2 etc.

HD-CFK2 with two testing places for simultaneous test of five steel or composite cylinder with a water volume up to 7 l and a test pressure of 450 bar.

Test pressure has to be made by an external pressure pump which is not included in delivery. The unit can be attached to all High-Pressure units as additional module.

Maximum admitted dimensions of the test cylinder:

Max. diameter: 300 mm
 Max. height: 600 mm
 Max. volume: 18 l
 (Other dimensions on request)



TECHNICAL DATA

Dimensions (l x w x h):	approx. 1150 x 650 x 2100 mm
Construction:	aluminium construction
Water connection:	1/2"
Weight (empty):	approx. 130 kg
Working pressure:	max. 450 bar
Colour:	hammer finish painted blue

Optional available at extra charge:

- » Manual/ electric lift-integrated high-pressure pump (model HD-CFK-1P)
- » The pressure module can be equipped with more or less test chambers
- » Module stationary for wall mounting (model HD-CFK-1W)
- » Screwed adaptor, e.g. small-conical, M25x2 etc.

Hydrotest unit for volumetric expansion of fibre carbon cylinders.

The mobile hydrotest unit model HD-CFK-3 with three testing tubes is designed for the simultaneous pressure test of three fibre carbon cylinders with up to 7 litres volume and up to the test pressure of 450 bar. The test procedure is the volumetric expansion test (Water Jacket). The steady volumetric expansion will be indicated by a measuring tube.

The pressure has to be made by an external pressure pump, which is not included in the scope of supply. The unit can be connected to all pressure testing units as an additional module.

Maximum admitted dimensions of the pressure cylinders:

Max. diameter: 300 mm
 Max. height: 600 mm
 Max. volume: 18 l
 (Other dimensions on request)

Accessories:

- » 3 High-Pressure adaptor large conical
- » 3 High-Pressure adaptor M18 x 1,5



TECHNICAL DATA

Dimension (l x w x h):	approx. 1450 x 600 x 1250 mm
Construction:	aluminium construction
Water connection:	1/2"
Colour:	hammer finish painted blue

Optional available at extra charge:

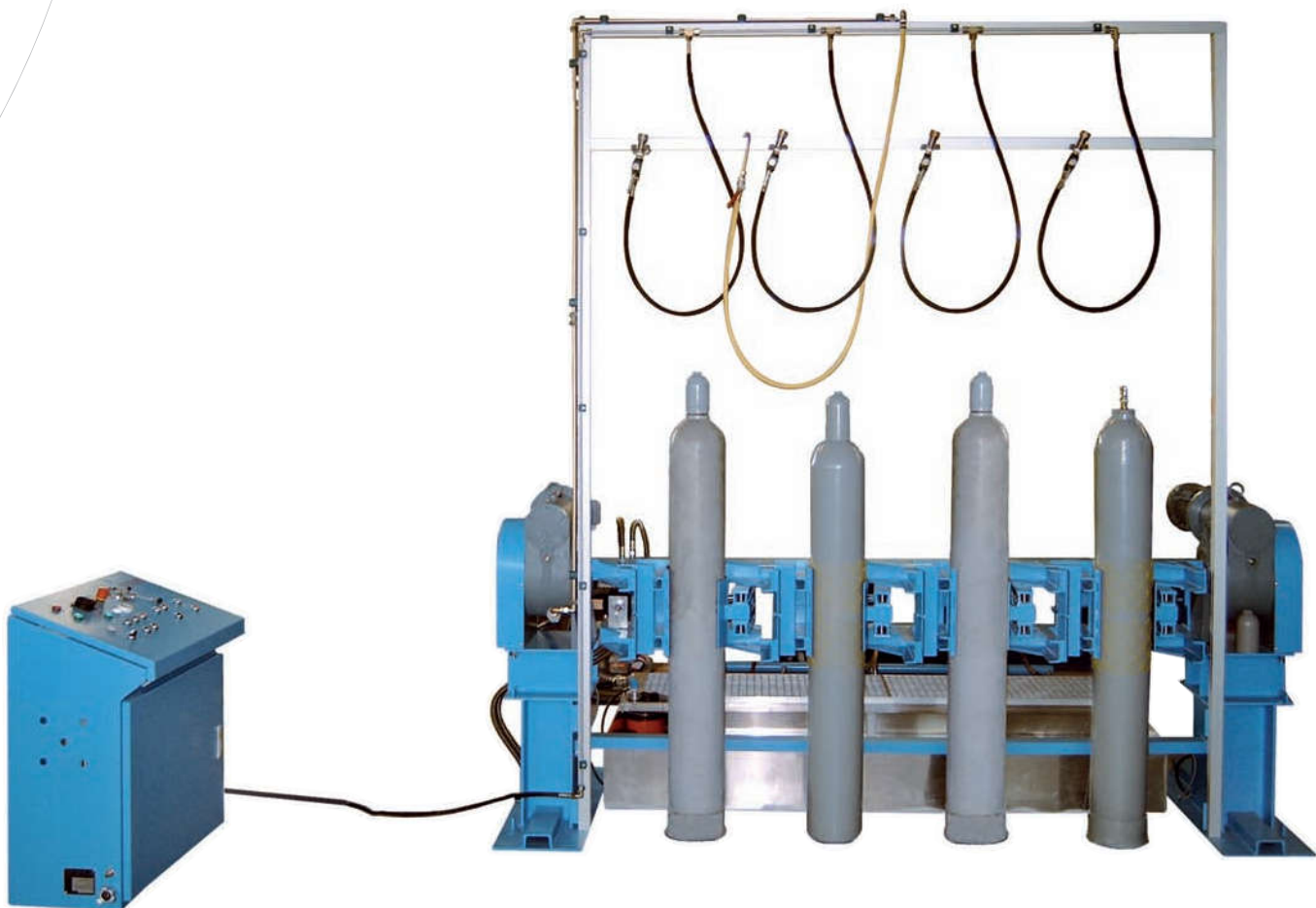
- » Electrically operated pulley
- » The hydrotest unit can be equipped with more or less Testing tubes according to the customer
- » Stationary unit for wall installation
- » Screwed adaptor, e.g. small-conical, M25x2 etc.

The tilting unit will be used in connection with a High-Pressure testing unit. It is for clamping and tilting of steel cylinders which have been emptied after the pressure test.

It is possible to tilt four cylinders at the same time. Each cylinder is clamped separately by hydraulic cylinder. Operation is effected with an operation panel. Tilting procedure can be effected up to max. 170°. Within this tilting area it can be stopped in every position. The steel cylinder will be emptied in tilted position inside the basin. The basin is located behind the tilting unit.

QUICK adaptor for tilting unit model EM:

- » Special adaptor with quick action lever for the High-Pressure test of CO₂-cylinder with the thread of W28,8 x1/14"
- » Screwing adaptor equipped with quick coupling



TECHNICAL DATA

Dimensions(l x w x h) of tilting unit:	approx. 2000 x 3700 x 2200 mm
Dimensions(l x w x h) of control panel:	approx. 800 x 600 x 1000 mm
Dimensions of steel cylinders:	Ø 205 – 270 mm (further diameters on request)
Hydraulic aggregate:	3 kW
Motor:	3-phase 230/400 V, 50 Hz
Swivelling drive:	2 x 3 kW, 3-phase 230/400 V, 50 Hz

Optional available at extra charge:

- » Water filling unit
- » High-Pressure testing unit (for pressure test of steel cylinders up to 450 bar)
- » Cylinder drying unit with drying lances
- » Heated cistern (volume 500 l)

The High-Pressure testing unit model HD-BERST is for testing of all High- and Low-Pressure container with additional option to burst up to max. 1000 bar.

Max. admitted dimensions of the pressure container:

- » Capacity: max. 18 l
- » Height: max. 600 mm
- » Diameter: max. 280 mm

The unit is equipped with:

- » Pneumatically driven High-Pressure pump
- » Control panel with data recorder
- » Test-/ burst tank
- » Electrically operated chain pulley (bearing load max. 200 kg)
- » Adjustable pump speed
- » 1 piece High-Pressure burst adaptor
- » High-Pressure hose 3 m



TECHNICAL DATA

Dimensions (l x w x h):	approx. 500 x 900 x 1000 mm (control panel) approx. 500 x 500 x 3000 mm (test tank)
Weight:	approx. 200 kg
Water connection:	1/2" with 3-5 bar water pressure
Compressed-air:	10 bar
Motor:	230 V, 10 A, 50 Hz
Colour:	hammer finish painted blue



Cylinder tilting unit FSV-A

The cylinder tilting unit model FSV-A enables the lifting, turning, tilting and moving of large cylinder up to 80 l without any effort. The cylinder is safely fixed to the clamping prism by two tension belts (60 mm, 8 to tension) und lifted by worm gear drive.

The cylinder can be rotated 360° continuously and locked at a position of 180° in lifted state. The unit is made of corrosion-free aluminium and can be fixed to the floor by four screws. The cylinder tilting unit FSV-A facilitate the emptying of the cylinder after finished water pressure test according to the regulations for pressure tanks.



TECHNICAL DATA

Construction:	aluminium construction
Dimensions (l x w x h):	approx. 850 x 850 x 1600 mm
Weight (empty):	approx. 69 kg
Max. Ø bottle:	approx. 200 – 410 mm
Max. bottle height:	approx. 1200 – 1900 mm
Max. bottle weight:	approx. 300 kg

Optional available at extra charge:

» Mobile unit, equipped with two guide/brake and two fixed rollers for heavy loads (model FSV-AF)

The mobile hose testing unit, model SHP has been especially designed to make pressure test of hoses on-site.

The unit is equipped with a digital display with automatic cut-off (on request with manual pressure gauge with automatic cut-off), as well as C-coupling for fresh water and C-coupling for hose testing. Adaptor for different sizes are available optionally.



TECHNICAL DATA

Dimensions (l x w x h):	approx. 800 x 500 x 900 mm
Max. working pressure:	approx. 40 bar
Motor:	230 V, 50 Hz, 8 A
Weight:	approx. 39 kg
Colour:	hammer finish painted blue or silvergrey

Hydrant testing unit, model WHP/WT/T

The WHP/WT/T hydrant testing unit is designed for the testing of hydrants according to DIN 14461 part 1 and DIN 14462.



Due to the compact construction, the WHP/WT/T can be operated easily and quickly.

The WHP/WT/T is equipped with a water tank, High-Pressure pump, hose drying installation and pressure gauge with switch-off feature. The pressure gauge switches off automatically on reaching the preadjusted testing pressure. The leakage testing of the piping, wall hydrants, hydrant fittings and hoses is indicated on the pressure gauge. The "WHP/WT/T" testing unit is reliable and precise.

Accessories of WHP/WT/T:

- » 1 joint
- » 1 nozzle 4 mm D
- » 1 nozzle 9 mm C
- » 1 transition piece C-D
- » 1 transition piece B-C

Alternative:

- » Hydrant testing unit, same model as described, however without drying installation

Optional available at extra charge:

- » Flow meter

TECHNICAL DATA

Construction:	made of steel with sheet covering
Water tank capacity:	18 Ltr.
Max. working pressure:	25 bar
Motor:	230 V, 2.1 kW, 50 Hz
Heating:	adjustable from 0 – 600°C
Fan:	max. 2.2 m ³ /min
Dimensions (l x w x h):	approx. 900 x 640 x 1000 mm
Weight:	approx. 100 kg

The movable hydrant testing unit, model WHP-N3 is designed for testing of hydrants and hoses.

Due to the pressure gauge at the adaptor, the flow pressure as well as the stand pressure (when ball valve is closed) can be measured. The unit is operated without any electricity.



The nitrogen bottle attached to the frame of the unit by quickaction lock ensures the requested test pressure by means of continuously adjustable pressure reducer. For testing different hose sizes, there are two transition pieces mounted to a quick-holder.

Accessories:

- » Transition piece BC
- » Transition piece CD
- » 3 m hose with coupling Storz C
- » N₂-pressure reducer continuously adjustable up to 20 bar
- » 27/32 open-end wrench
- » 3 l nitrogen bottle
 [alternative against surcharge]:
 HP-hand operated pump 0 – 50 bar
- » 1 m air hose with coupling
- » Testing adaptor with pressure gauge
- » T-piece with D-coupling
- » 4 nozzles (4, 6, 9, 12 mm)

Optional available at extra charge:

- » 10 l N₂ bottle

TECHNICAL DATA

Dimensions (l x w x h):	approx. 600 x 600 x 1050 mm
Tank:	stainless steel
Capacity:	approx. 100 l
Weight (empty):	approx. 39 kg
Colour:	hammer finish painted blue or silvergrey

The hand operated hose testing pump is a manually operated pump for the testing of pressure hoses, hydrants and rising fire mains. It is especially appropriate for service-offices and for the use in larger buildings with several floors. It is easy to be operated and there is no need for any current supply.

Unit consists of:

- » Coupling connections inlet / outlet C-52 Storz
- » Pressure gauge

**TECHNICAL DATA**

Construction:	hot-dipped with laquered steel tank
Pump:	piston pump max. 100 bar
Stroke:	80 cm
Capacity:	approx. 35 l
Weight:	approx. 18 kg
Dimensions (l x w x h):	approx. 450 x 450 x 500 mm
Colour:	hammer finish painted blue or silvergrey