L170R01V2
Mega Series

Service carts for large and extra large gas compartments

The L170 service carts for liquid gas storage have been developed to recover, purify, evacuate, fill, and vent large to extra-large SF_6 gas compartments with high process reliability. Modern control technology in conjunction with a user-friendly interface in several languages make device operation simple and convenient. Operation via mobile devices such as smartphones, tablets or laptops is available as an option. The external cover of the device protects the integrated components and considerably reduces noise. This series offers fully automated operation via a 10" touch screen with protective cover shielding from sunlight and dust. The swivelling touch screen allows ergonomic working at the optimum working height. For data exchange additional USB and Ethernet connections are integrated. By using the hermetically gastight DILO couplings and connections, emission-free gas handling is guaranteed. The series also enables short gas recovery and evacuating times thanks to the existing DN20 / DN40 couplings and is available with a second DN20 connecting coupling as an option. Thus, two functions can be carried out simultaneously. This makes it possible to evacuate air from one gas compartment and at the same time fill another gas compartment with SF_6 gas or to recover the gas from it. Thanks to the automated special functions the devices can be easily maintained without emissions.

The actual product may differ slightly from the image.

Standard version

- B110R11 oil-free DILO compressor; delivery rate (19 m³/h [at 50 Hz]; 15 m³/h [at 60 Hz]) at medium suction pressure with SF_6
- oil-free suction pump for recovery of SF_6 gas (35 m³/h [at 50 Hz]; 42 m³/h [at 60 Hz], fi nal vacuum 1 mbar)
- vacuum pump for evacuation of air; delivery rate (configurable)
- evaporator max. flow rate 200 kg/h)
- dry filter (water absorption capacity: 175 g at a dew point of -36°C)
- particle filter 1 µm
- operation and indication of the important process parameters via 10“ touch screen with protective cover
- indication units in bar / mbar, kPa or psi / torr to be selected on the touch screen
- forklift slots
- crane eyelets
- fixing and steerable rollers (configurable)
- drawer for tools and accessories
- 2 m long storage connecting hose DN8 with DILO coupling tongue part DN20
- most common global cylinder connections
- digital weighing scales for SF6 cylinders (with automatic switch-off function), 0 - 120 kg with tare function, accuracy ± 0.02 %
- wrenches for DILO couplings and filters
- paint: anthracite-orange

Special features

- Gas type: SF_6
- Gas recovery: < 1 mbar
- Filling of gas: 0 - 10 bar
- Evacuation of air: < 1 mbar
- Maximum storage pressure: 50 bar
- Recommended gas quantity: < 300 kg
- Operation: automatic
- DILO couplings: DN20/DN40

Advantages & functions

- SF_6 gas recovery down to 1 mbar
- optional remote control via mobile devices
- reversing switch for correcting the direction of rotation
- integrated special functions for easy maintenance and safe transport
- all versions are available with pressure vessels (integratable features) with CE marking or optionally with SQL or ASME approval
- the service carts can also be mounted onto a trailer

Technical data

Dimensions (W x H x D)	1,100 x 1,350 x 2,350 mm - Standard version
Weight	1,048 kg above-mentioned version
Dimensions (W x H x D)	1,185 x 1,960 x 2,625 mm - Version: 300 l pressure vessel, with electronic weight indication and chassis with solid tyre wheels
Weight	1,660 kg above-mentioned version
Dimensions (W x H x D)	1,185 x 2,095 x 2,625 mm - Version: 600 l pressure vessel, with electronic weight indication and chassis with solid tyre wheels
Weight	1,960 kg above-mentioned version
Dimensions (W x H x D)	1,185 x 2,095 x 2,625 mm - Version: stowage including 5 x 40 kg SF_6 cylinders with electronic weight indication and chassis with solid tyre wheels
Weight	1,730 kg above-mentioned version
Ambient temperature	0 to +45 °C
Operating temperature	0 to +45 °C
Storage temperature	-20 to +60 °C
Protection class	IP54
Sound level	< 76 dB
Maximum delivery capacity compressor	49,8 m3/h at suction pressure with SF_6 and a back pressure of 27 bar (50 Hz)
Maximum delivery capacity compressor	52,6 m3/h at suction pressure with SF_6 and a back pressure of 27 bar (60 Hz)
Medium delivery capacity compressor	19 m3/h at suction pressure with SF_6 and a back pressure of 25 bar (50 Hz)
Medium delivery capacity compressor	15 m3/h at suction pressure with SF_6 and a back pressure of 25 bar (60 Hz)

Configuration

Screen	
10" touch screen	Operation of the device and indication of the process parameters via 10" colour touch screen
10" touch screen + WiFi	
10" touch screen+WiFi+Cosy NA	
10" touch screen+WiFi+Cosy EU	
Operating voltage range	
208-240V 60Hz	208 - 240 V / 60 Hz, three-phase current
380-460V 50Hz	380 - 460 V / 50 Hz, three-phase current
380-480V 60Hz	380 - 480 V / 60 Hz, three-phase current
200V 50Hz	200 V / 50 Hz, three-phase current
200V 60Hz	200 V / 60 Hz, three-phase current
208-240V 50Hz	208 - 240 V / 50 Hz, three-phase current
600V 60Hz	600 V / 60 Hz, three-phase current
208-240V 60Hz (USA)	208 - 240 V / 60 Hz, three-phase current
480V 60Hz (USA)	480 V / 60 Hz, three-phase current
Vacuum pump	
Without vacuum pump	
63m³/h; <1mbar(S01-05+S08+S09)	Vacuum pump for evacuation of air (63 m³/h at 50 Hz, 76 m³/h at 60 Hz, final vacuum < 1 mbar)
63m³/h; <1mbar (S06)	Vacuum pump for evacuation of air (63 m³/h at 50 Hz, 76 m³/h at 60 Hz, final vacuum < 1 mbar)
63m³/h; <1mbar (S07)	Vacuum pump for evacuation of air (63 m³/h at 50 Hz, 76 m³/h at 60 Hz, final vacuum < 1 mbar)
100m³/h;<1mbar(S01-05+S08+S09)	Vacuum pump for evacuation of air (100 m³/h at 50 Hz, 120 m³/h at 60 Hz, final vacuum < 1 mbar)
100m³/h; <1mbar (S06)	Vacuum pump for evacuation of air (100 m³/h at 50 Hz, 120 m³/h at 60 Hz, final vacuum < 1 mbar)
100m³/h; <1mbar (S07)	Vacuum pump for evacuation of air (100 m³/h at 50 Hz, 120 m³/h at 60 Hz, final vacuum < 1 mbar)
200m³/h;<1mbar(S01-06+S08+S09)	Vacuum pump for evacuation of air (200 m³/h at 50 Hz, 240 m³/h at 60 Hz, final vacuum < 1 mbar)
200m³/h; <1mbar (S07)	Vacuum pump for evacuation of air (200 m³/h at 50 Hz, 240 m³/h at 60 Hz, final vacuum < 1 mbar)
TypRH0060; (S01-06+S08+S09)	Vacuum pump for evacuation of air, two-stage vacuum pump with exhaust filter, type RH0060, nominal suction capacity: 55 m³/h at 50 Hz, 65 m³/h at 60 Hz, final vacuum 0.0067 mbar
TypRH0060; (S07)	Vacuum pump for evacuation of air, two-stage vacuum pump with exhaust filter, type RH0060, nominal suction capacity: 55 m³/h at 50 Hz, 65 m³/h at 60 Hz, final vacuum 0.0067 mbar
TypRH0090; (S01-06+S08+S09)	Vacuum pump for evacuation of air, two-stage vacuum pump with exhaust filter, type RH0090, nominal suction capacity: 80 m³/h at 50 Hz, 95 m³/h at 60 Hz, final vacuum 0.0067 mbar
TypRH0090; (S07)	Vacuum pump for evacuation of air, two-stage vacuum pump with exhaust filter, type RH0090, nominal suction capacity: 80 m³/h at 50 Hz, 95 m³/h at 60 Hz, final vacuum 0.0067 mbar
Automatic control + exhaust monitoring	

without K141R11 and K203R01	Without automatic switch-off function (SF_6 gas recovery, evacuation of air, filling of SF_6) when reaching the corresponding final values, without exhaust monitoring for vacuum pump (additional SF_6 sensor at the vacuum pump which terminates the function "Evacuation of air / N_2" automatically when detecting SF_6 gas in the exhaust air for avoiding an inadvertent loss of SF_6 gas)
with K141R11; without K203R01	With automatic switch-off function (SF_6 gas recovery, evacuation of air, filling of SF_6) when reaching the corresponding final values, without exhaust monitoring for vacuum pump (additional SF_6 sensor at the vacuum pump which terminates the function "Evacuation of air / N_2" automatically when detecting SF_6 gas in the exhaust air for avoiding an inadvertent loss of SF_6 gas)
without K141R11; with K203R01	Without automatic switch off function (SF_6 gas recovery, evacuation of air, filling of SF_6) when reaching the corresponding final values, with exhaust monitoring for vacuum pump (additional SF_6 sensor at the vacuum pump which terminates the function "Evacuation of air / N_2" automatically when detecting SF_6 gas in the exhaust air for avoiding an inadvertent loss of SF_6 gas)
with K141R11; with K203R01	With automatic switch-off function (SF_6 gas recovery, evacuation of air, filling of SF_6) when reaching the corresponding final values, with exhaust monitoring for vacuum pump (additional SF_6 sensor at the vacuum pump which terminates the function "Evacuation of air / N_2" automatically when detecting SF_6 gas in the exhaust air for avoiding an inadvertent loss of SF_6 gas)
Filling pressure + emptying of storage vessel	
K205R01 (10 bar) w/o K204R03	Filling of gas compartment with SF_6 up to max. pa 10 bar. The storage vessel connected for filling (cylinder, internal / external pressure vessel) can be recovered down to atmospheric pressure.
K205R02 (15 bar) w/o K204R03	Filling of gas compartment with SF_6 up to max. pa 15 bar. The storage vessel connected for filling (cylinder, internal / external pressure vessel) can be recovered down to atmospheric pressure.
K205R01 (10 bar) with K204R03	Filling of gas compartment with SF_6 up to max. pa 10 bar. The storage vessel connected for filling (cylinder, internal / external pressure vessel) can be recovered down to < 1 mbar.
K205R02 (15 bar) with K204R03	Filling of gas compartment with SF_6 up to max. pa 15 bar. The storage vessel connected for filling (cylinder, internal / external pressure vessel) can be recovered down to < 1 mbar.
Device covering	
Standard sheet-metal cover	
With tarpaulin- K029R68	
Integrateable features (pressure vessel, chassis and rollers)	
Without rollers	
steerable and fixing rollers	With fixing and steerable rollers
chassis with solid tyre wheels	Chassis with solid tyre wheels, diameter 400 mm
300l / 50bar CE / chassis	B172R11L170 300 l / 50 bar pressure vessel in accordance with Directive 2014/68/EU and CE marked with electronic weight indication and chassis with solid tyre wheels
600l / 50bar CE / chassis	B172R12L170 600 l / 50 bar pressure vessel in accordance with Directive 2014/68/EU and CE marked with electronic weight indication and chassis with solid tyre wheels

Storage without cylinders, FW	B175R64L170 Stowage with electronic weight indication, without SF_6 cylinders, with chassis with solid tyre wheels
Storage with 5 cylinders, FW	B175R65L170 Stowage with electronic weight indication, with 5 SF_6 cylinders and chassis with solid tyre wheels
Trailer w/o stowage (only SC)	B088R20 2-axle car trailer, TÜV-approved, including tarpaulin, side and back walls opened by pneumatic springs, service cart directly mounted on the trailer
Trailer without cylinders	2-axle car trailer, TÜV-approved, stowage with weighing device without SF_6 cylinders. With pre-filter unit, tool cabinet and cylinder scales. Including tarpaulin, side and back walls opened by pneumatic springs
Trailer with 4 cylinders	2-axle car trailer, TÜV-approved, stowage with weighing device without SF_6 cylinders. With pre-filter unit, tool cabinet and cylinder scales. Including tarpaulin, side and back walls opened by pneumatic springs
300l / 50bar SQL;CN / chassis	B172R91L170/CN 300 l / 50 bar pressure vessel with SQL approval (Made in China), electronic weight indication and chassis with solid tyre wheels
600l / 50bar SQL;CN / chassis	B172R92L170/CN 600 l / 50 bar pressure vessel with SQL approval (Made in China), electronic weight indication and chassis with solid tyre wheels
300l / 50bar ASME / chassis	B172R84L170 300 l / 50 bar pressure vessel with ASME approval, electronic weight indication and chassis with solid tyre wheels
600l / 50bar ASME / chassis	B172R85L170 600 l / 50 bar pressure vessel with ASME approval, electronic weight indication and chassis with solid tyre wheels
300l / 50bar SQL;GE / chassis	B172R91L170/GE 300 l / 50 bar pressure vessel with SQL approval (Made in Germany), electronic weight indication and chassis with solid tyre wheels
600l / 50bar SQL;GE / chassis	B172R92L170/GE 600 l / 50 bar pressure vessel with SQL approval (Made in Germany), electronic weight indication and chassis with solid tyre wheels
Trailer w/o stowage,w/o cylind	2-axle car trailer TÜV approved, stowage with weighing device without SF_6 cylinders, including tarpaulin, side and back walls opened by pneumatic springs and hose reel with spring balancer
Trailer w. stowage w. cylinder	2-axle car trailer, TÜV approved, stowage with weighing device with SF_6 cylinders, including tarpaulin, side and back walls opened by pneumatic springs and hose reel with spring balancer
300l/50bar Austr. st. / chassi	300 l / 50 bar pressure vessel in accordance with Australian standard with electronic weight indication and chassis with solid tyre wheels
Dew point control + parallel operation	
w/o dew point, w/o parallel	
with dew point, w/o parallel	SF_6 dew point indication after dry filter
w/o dew point w. parallel <200	Additional coupling DN20 for evacuation of air and recovery or filling of SF_6 gas at the same time with existing vacuum pump < 200m³/h
w. dew point w. parallel <200	SF_6 dew point indication after dry filter, additional coupling DN20 for evacuation of air and recovery or filling of SF_6 gas at the same time with existing vacuum pump < 200m³/h

w/o dew point, w. parallel 200	Additional coupling DN20 for evacuation of air and recovery or filling of SF_6 gas at the same time with existing vacuum pump 200m³/h
w. dew point, w. parallel 200	SF_6 dew point indication after dry filter, additional coupling DN20 for evacuation of air and recovery or filling of SF_6 gas at the same time with existing vacuum pump 200m³/h
Transport lock	
without transport protection	Without relief of fixing and steerable rollers for transport
with transport protection	With relief of fixing and steerable rollers for transport: By using this transport protection, the device can be stored and transported in a safe way (for example on a truck). With this system the fixing- and steerable rollers will be discharged. Therefore, the device can be transported and lashed in a safe way.
Vacuum indication	
Standard indication	0 - 100 mbar, resolution 0.1 mbar
High-precision indication A	Vacuum sensor for gas compartment A, indicating range 1x10-5 mbar
High-precision indication B	Vacuum sensor for gas compartment B, indicating range 1x10-5 mbar
High-precision indication A+B	Vacuum sensor for gas compartment A and gas compartment B, indicating range 1x10-5 mbar

Optional accessories

B077R22	Portable pre-filter unit (p_e 50 bar)
6-1017-R100	10 m long rubber hose DN20 with DILO coupling tongue part DN20 on both ends
6-1365-R050	5 m long wire braided hose DN20 with DILO coupling tongue part on both ends PN 64 bar
6-1365-R100	10 m long wire-braided hose DN20 with DILO coupling tongue part on both ends PN 64 bar
6-1076-R100	10 m long wire-braided hose DN40 with DILO-coupling tongue part DN40 on both ends
6-1080-R050	5 m long wire-braided hose DN40 with DILO coupling tongue part DN40 on one end and DILO coupling tongue part DN20 on the other end
6-1080-R100	10 m long wire-braided hose DN40 with DILO coupling tongue part DN40 on one end and DILO coupling tongue part DN20 on the other end
6-1235-R001	DILO coupling tongue part DN40 with transition piece to 2 x DN20, 2 rubber hoses DN20 (10 m long) with DILO coupling tongue part DN2
6-1048-R511	Annual maintenance kit for L170R01 with standard vacuum pump (63 m³/h) / 6-170VP-R001 (100 m³/h)
6-1048-R512	Annual maintenance kit for L170R01 with 6-170VP-R002 (200 m³/h) vacuum pump
6-1048-R515	Annual maintenance kit for L170R01 with 2-stage 6-170VP-R008 (55 m³/h) vacuum pump
6-1048-R516	Annual maintenance kit for L170R01 with 2-stage 6-170VP-R009 (80 m³/h) vacuum pump
6-1410-R011	Spare parts kit for compressor
6-1101-R141	Spare filter kit (for SF_6 dry and particle filter)
6-1053-R004/1M	Electrical connecting cable 5x16 AWG5 (available lengths 5 - 30 m)

Packaging

3-788-R010-C	Packing for L170R01
3-788-R013-C	Packing for L170R01 with 6-170FG-R003 (chassis) as option
3-788-R011-C	Packing with stowage and weighing device/pressure tank with chassis
3-688-R005-C	Transport pallet mounted on a trailer

Note

For the 200 - 480 V voltage range the following cable is required: 6-1053-R004