FLOWMETERS

Kolibri compact flowmeter

.... Kolibri, plug-in unit

.... Kolibri double flowmeter, plug-in unit

USAGE

Medical, compact flowmeter for medical compressed gases in accordance with DIN EN ISO 15002. The Kolibri compact flow meter has an impressively compact design. The precise adjustment of the flow steps and the robustness of the entire unit are properties that combine user-friendliness and economy optimally. Plug-in unit for direct coupling to a DIN terminal unit.

TECHNICAL DATA

Gas type:	O2 or AIR (other gases on request)
Primary pressure:	450 kPa ± 50 kPa
Design:	10-step stop adjust flow meter
Material:	brass, matt chrome-plated
	Adjusting ring: POM plastic
	Plug-in connector: Stainless steel V2A
Inlet:	Plug connector in acc. with DIN 13260 Part 2:2013*
Outlet:	9/16"-18 UNF with flow barbed connector**

*other plug connectors / national standards on request
**suitable for connecting reusable or disposable humidifiers

PERFORMANCE*

Stop	1	2	3	4	5	6	7	8	9	10	
Standard	0.5	1	1.5	2	3	4	6	8	12	15	l/min
Standard+	0.5	1	2	4	6	8	10	12	15	30+	l/min
Children	0.1	0.3	0.5	0.6	0.8	1	2	3	4	5	l/min
Neonatal	0.1	0.15	0.2	0.25	0.3	0.4	0.5	0.6	0.8	1	l/min

*Setting accuracy: ± 20 % of set value (at flows ≤ 1.5 l/min: ± 30 % of set value

KOLIBRI FLOWMETERS, PLUG-IN UNIT

Kolibri compact flowmeter, Standard, O2, 0-15 l/min, plug-in unit, DIN	901.400
Kolibri compact flowmeter, Standard+, O2, 0-30 l/min, plug-in unit, DIN	901.401
Kolibri compact flowmeter, Children, O2, 0-5 l/min, plug-in unit, DIN	901.404
Kolibri compact flowmeter, Neo, O2, 0-1 l/min, plug-in unit, DIN	901.405
Kolibri compact flowmeter, O2, 10 flows selectable, plug-in unit, DIN	901.406
Kolibri compact flowmeter, AIR, fixed flow 6 l/min, plug-in unit, DIN	901.402
Kolibri compact flowmeter, AIR, fixed flow 8 l/min, plug-in unit, DIN	901.403
Kolibri compact flowmeter, Standard, AIR, 0-15 l/min, plug-in unit, DIN	901.491
Kolibri compact flowmeter, AIR, 10 flows selectable, plug-in unit, DIN	901.407

KOLIBRI DOUBLE FLOWMETERS, PLUG-IN UNIT

Kolibri double compact flowmeter, O2, 0-15 l/min, plug-in unit, DIN	901.408
Kolibri double compact flowmeter, AIR, 0-15 l/min, plug-in unit, DIN	500.248

Tube flowmeter

GREGGERSEN

USAGE

Medical tube flowmeter in accordance with DIN EN ISO 15002.
Chrome-plated all-metal housing with a fine control valve for continuous adjustment of the flow. Measuring tubes with floats to display the set value. The outlet has a 9/16"-18 UNF thread for direct connection to e.g. disposable humidifiers. Plug-in unit for direct coupling to a DIN terminal unit.

Tube flowmeter, plug-in unit.....................

TECHNICAL DATA

Gas type:	O2 + AIR (other gases on request)
Primary pressure:	450 kPa ± 50 kPa
Design:	Pressure-compensated flow meter
	for medical gases.
	Display based on the float principle.
Material:	Control valve, hand wheel: brass, chrome-plated
	Plug connector: Stainless steel
	Measuring tube sleeve + measuring tubes: plastic
Inlet:	Plug connector in acc. with DIN 13260 Part 2:2013*
Outlet:	9/16"-18 UNF thread, suitable for connecting humidifiers or disposable humidifiers

*other plug connectors / national standards on request

Double flowmeter, plug-in unit..........................

TUBE FLOWMETERS, PLUG-IN UNITS

Flowmeter, O2, 0-6 l/min, plug-in unit, DIN	900.751
Flowmeter, O2, 0-15 l/min, plug-in unit, DIN	900.753
Flowmeter, O2, 0-30 l/min, plug-in unit, DIN	900.755
Flowmeter, O2, 0-6 l/min, extended, plug-in unit, DIN	900.752
Flowmeter, O2, 0-15 l/min, extended, plug-in unit, DIN	900.754
Flowmeter, O2, 0-30 l/min, extended, plug-in unit, DIN	900.756
Flowmeter, AIR, 0-15 l/min, plug-in unit, DIN	900.893
Flowmeter, AIR, 0-15 l/min, extended, plug-in unit, DIN	900.894

DOUBLE FLOWMETERS, PLUG-IN UNITS

Double flowmeter, O2, 0-6 l/min, plug-in unit, DIN	900.746
Double flowmeter, O2, 0-15 l/min, plug-in unit, DIN	900.745
Double flowmeter, O2, 0-30 l/min, plug-in unit, DIN	900.747
Double flowmeter, AIR, 0-15 l/min, plug-in unit, DIN	900.748

Kolibri compact flowmeter

RAIL-MOUNT UNIT ....

.... Kolibri, rail-mount unit

◂ USAGE

Medical, stop-adjustable compact flowmeter for medical compressed gases in accordance with DIN EN ISO 15002. The Kolibri compact flow meter has an impressively compact design. The precise adjustment of the flow steps and the robustness of the entire unit are properties that optimally combine user-friendliness and economy. Rail-mount unit, incl. a rail claw for attaching to a standard device rail (25x10 mm). Pressure inlet integrated into the rail clamp (NIST).

TECHNICAL DATA

Gas type:	O2 + AIR (other gases on request)
Primary pressure:	450 kPa ± 50 kPa
Design:	10-step stop adjust flow meter*
Material:	brass, chrome-plated
	Adjusting ring: POM plastic
Inlet:	NIST housing in accordance with DIN EN ISO 18082
Outlet:	9/16"-18 UNF with barbed connector*

**suitable for connecting reusable or disposable humidifiers

.... Kolibri double flowmeter,
rail-mount unit

PERFORMANCE*

Stop	1	2	3	4	5	6	7	8	9	10	
Standard	0,5	1	1,5	2	3	4	6	8	12	15	l/min
Standard+	0,5	1	2	4	6	8	10	12	15	30+	l/min
Children	0,1	0,3	0,5	0,6	0,8	1	2	3	4	5	l/min
Neonatal	0,1	0,15	0,2	0,25	0,3	0,4	0,5	0,6	0,8	1	l/min

*Setting accuracy: ± 20 % of set value (at flows ≤ 1.5 l/min: ± 30 % of set value

KOLIBRI FLOWMETERS, RAIL-MOUNT UNIT, NIST   (without connection hose)

Kolibri Standard compact flowmeter, O2, 0-15 l/min, rail-mount unit, NIST	902.600
Kolibri Standard+ compact flowmeter, O2, 0-30 l/min, rail-mount unit, NIST	902.601
Kolibri Children compact flowmeter, Standard, O2, 0-5 l/min, rail-mount unit, NIST	902.602
Kolibri Neo compact flowmeter, O2, 0-1 l/min, rail-mount unit, NIST	902.603
Kolibri compact flowmeter, O2, 10 flows selectable, rail-mount unit, NIST	902.604
Kolibri flowmeter, AIR, fixed flow 6 l/min, rail-mount unit, NIST	902.605
Kolibri flowmeter, AIR, fixed flow 8 l/min, rail-mount unit, NIST	902.606
Kolibri flowmeter, AIR, 0-15 l/min, rail-mount unit, NIST	902.608
Kolibri flowmeter, AIR, 0-30 l/min, rail-mount unit, NIST	902.609
Kolibri flowmeter, AIR, 10 flows selectable, rail-mount unit, NIST	902.607

KOLIBRI DOUBLE FLOWMETERS, RAIL-MOUNT UNIT, NIST

Kolibri Standard double flowmeter, O2, 0-15 l/min, rail-mount unit, NIST	902.678
Kolibri double flowmeter, Standard, AIR, 0-15 l/min, rail-mount unit, NIST	902.679

Tube flowmeter

RAIL-MOUNT UNIT ....

◂ USAGE

Medical flowmeter in accordance with DIN EN ISO 15002.
Rail-mount unit, incl. a rail claw for attaching to a standard device rail (25x10 mm). Pressure inlet integrated into the rail clamp (NIST).
Chrome-plated all-metal housing with a fine control valve for continuous adjustment of the flow. Measuring tubes with floats to display the set value.
The outlet has a 9/16"-18 UNF thread for direct connection to e.g. disposable humidifiers.

TECHNICAL DATA

Gas type:	O2 + AIR (other gases on application)
Primary pressure:	450 kPa ± 50 kPa
Design:	Flow meter for medical gases.
	Display based on the float principle.
Material:	Control valve, hand wheel: brass, chrome-plated
	Measuring tube sleeve + measuring tubes: plastic
Inlet:	NIST housing in accordance with DIN EN ISO 18082
Outlet:	9/16"-18 UNF thread*

*suitable for connecting reusable or disposable humidifiers

Tube flowmeter, rail-mount unit.....................

FLOWMETERS, RAIL-MOUNT UNIT, NIST   (without connection hose)

Flowmeter, O2, 0-6 l/min	902.610
Flowmeter, O2, 0-15 l/min	902.611
Flowmeter, O2, 0-30 l/min	902.612
Flowmeter, AIR, 0-15 l/min	902.613

Double flowmeter, rail-mount unit.....................

DOUBLE FLOWMETERS, RAIL-MOUNT UNIT, NIST   (without connection hose)

Double flowmeter, O2, 0-15 l/min	902.620
Double flowmeter, AIR, 0-15 l/min	902.621

Medication nebuliser

...................Nebuliser plug-in valve with clamp

◢USAGE

In conjunction with a medication nebuliser for dosed dispensing of medical compressed air or medical oxygen for the inhalation of medications in the form of aerosols.

Incl. side clamp for attaching e.g. disposable medication nebulisers.

TECHNICAL DATA

Gas type:	Med. Compressed air (AIR) / Oxygen (O2)
Primary pressure:	450 kPa ± 50 kPa primary pressure
Design:	Dosage valve, with quick-action valve
Material:	brass, matt chrome-plated
Inlet:	Plug connector in accordance with DIN 13260 Part 2: 2013*
Outlet:	9/16"-18 UNF with barbed connector
Performance:	Up to 5 l/min ± 0.5 l/min

*other plug connectors / national standards on request

NEBULISER PLUG-IN VALVE WITH CLAMP

Nebuliser plug-in valve with clamp, AIR/O2, 05 l/min, plug-in unit, DIN	900.865

Medication nebuliser

◢USAGE

Nebuliser plug-in valve, preset to 5 l/min; in conjunction with "Respi-Jet" Kendall medication nebuliser for dosed dispensing of medications in the form of aerosols.

For direct coupling to a compressed air tapping point; the upper ring is shaped such that the Respi-Jet nebuliser can be "parked" on the valve when not in use.

Nebuliser plug-in valve.....................

TECHNICAL DATA

Gas type:	Med. Compressed air (AIR) / Oxygen (O2)
Primary pressure:	450 kPa ± 50 kPa
Design:	Dosage valve with quick-action valve
Material:	brass, polished chrome-plated
Inlet:	Plug connector in accordance with DIN 13260 Part 2: 2013*
Outlet:	9/16"-18 UNF thread
Performance:	preset 5 l/min ± 0.5 l/min

*other plug connectors / national standards on request

Application example ....

NEBULISER PLUG-IN VALVE WITH PARKING POSITION

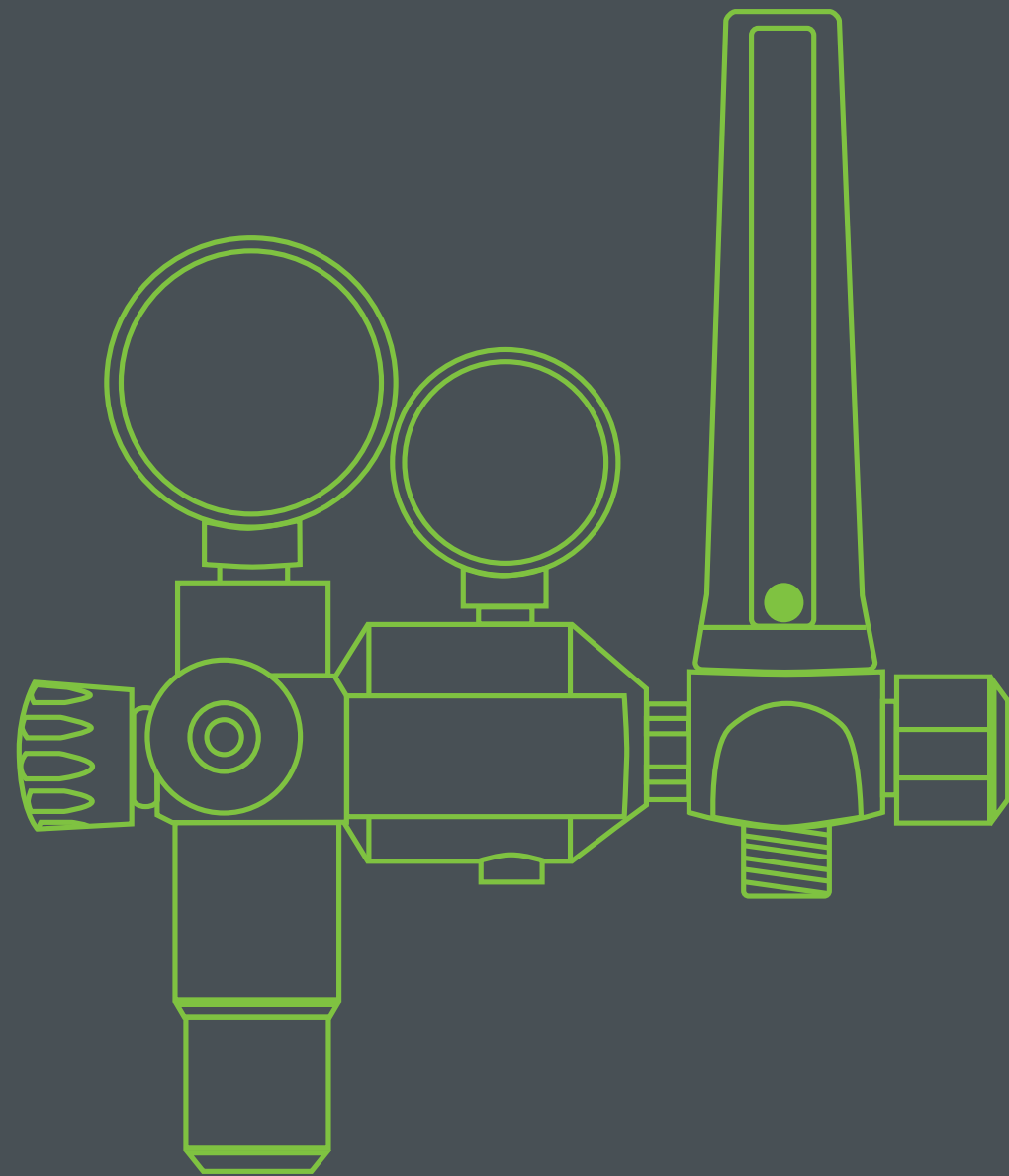|	
Nebuliser plug-in valve PP*, AIR/O2, 05 l/min, plug-in unit, DIN	900.765

(*PP: Parking position)

Parking position

COMBINED UNITS

Hawk variants

.... Basic variant, portable Item no. 902.696

◢ HAWK PORTABLE EMERGENCY TREATMENT UNIT

O2 supply unit for suction and insufflation for stationary or mobile use. The unit be suspended from the patient's bed or from a standard device rail, and works independently of any central gas or power supply.

.... possible equipment variants

◢ HAWK SUCTION AND INSUFFLATION UNIT

Serves for connection to oxygen cylinders. It consists of a pressure reducer, Woodpecker vacuum regulator and tube flow meter, or Kolibri flow meter and is used predominantly in emergency treatment situations.

The unit is also available for attachment to a standard device rail. This rail-mounted unit consists of a Woodpecker -90 ejector regulator, a Kolibri compact flow meter and optionally an additional plug-in outlet for operating a further unit (e.g. an emergency ventilator).

Hawk portable emergency treatment unit

GREGGERSEN

....

◢ USAGE

Portable stainless steel frame, pressure regulator (Präzicon III) with high-pressure manual connector in accordance with DIN 477-1, preset with volume manometer and safety valve. Tube flow meter with fine-dosing valve for regulating the flow. Woodpecker -90 ejector with a vacuum meter and fine-dosing valve. Includes a 1.5 m low pressure hose. Optional: Oxygen cylinder 2 or 3 litre (empty).

TECHNICAL DATA

Gas type:	Oxygen (O2)
Design:	Carrying frame with carrying handle. For standing up, Suspend on a standard device rail (25x10 mm) or suspend on beds.
Material:	Carrying frame: Stainless steel regulator unit: brass, chrome-plated
Compatible oxygen bottles:	max. Ø = 100 mm
PRESSURE REDUCERS	see chapter Pressure reducers
FLOW METERS	see chapter Flow meters and Präzicon III
VACUUM REGULATOR	see chapter Vacuum regulators / Woodpecker -90

BASIC VARIANTS, PORTABLE (NOT READY FOR OPERATION)

Hawk with tube flowmeter, 0-15 l/min	902.696
Hawk with Kolibri compact flowmeter 0-15 l/min	902.697

ACCESSORIES NECESSARY FOR OPERATION

PRESSURE REDUCERS	
Präzicon III, O2 DIN, DIN coupling, short	910.158
Alternatively: Falke w/o Flow O2 DIN +1DIN (upward)	910.374
Alternatively: Falke w/o Flow O2 DIN +1DIN (downward)	910.382
LOW-PRESSURE HOSE	
Right-angle connector, O2, 1.5 m hose DIN-NIST neutral	900.038
Alternatively: angle plug, O2, 1.5 m hose DIN-NIST ISO	902.410
Alternatively: angle plug, O2, 0.55 m hose DIN-NIST neutral	500.390

OPTIONAL ACCESSORIES

Drainage bottle with overflow protection 0.25 l – AIR	900.911
Humidifier unit 0.25 l	904.836

i

MODULAR PRINCIPLE
The large number of accessory options allows a solution tailored to the customer's needs (modular principle). There are two item numbers for the carrying frame including block with ejector and flow meter, inlet NIST O2 as basis (not ready for operation). Please then select the accessories necessary for operation.

Hawk pressure regulator unit

WITH CYLINDER CONNECTION...

GREGGERSEN

◢USAGE

Pressure regulator unit for connection to an oxygen cylinder, with volume manometer and safety valve. Includes a downstream tube flow meter with a fine-dosing valve for regulating the flow and a Woodpecker -90 ejector with a vacuum gauge and fine-dosing valve.

TECHNICAL DATA

PRESSURE REGULATOR UNIT	
Gas type:	Oxygen
Primary pressure:	Max. 20,000 kPa (P1)
Inlet:	gas-specific manual connector in accordance with DIN 477-1
Design:	Spring-loaded membrane pressure reducer in accordance with DIN EN ISO 10524-1 with manometer, display 0-31,500 kPa
Material:	brass, polished chrome-plated
FLOWMETERS	
Design:	Tube flow meter in accordance with DIN EN ISO 15002 Pressure-compensated, incl. fine-control valve or stop adjust flow meter
Material:	brass, chrome-plated
Outlet:	9/16"18 UNF thread
Performance:	0 – 15 l/min
WOODPECKER VACUUM REGULATOR	
Design:	Vacuum generation according to the Venturi principle
Material:	Housing: brass, chrome-plated quick-action valve
Regulation range:	see Woodpecker -90
Outlet:	9/16"-18 UNF with barbed vacuum connector

....Item no. 910.003

HAWK PRESSURE REDUCER O2: SUCTION + INSUFFLATION UNIT	
Hawk O2: Woodpecker -90 + tube flowmeter	910.003
Hawk O2: Woodpecker -90 + Kolibri flowmeter	500.046

Hawk combined unit

RAIL-MOUNT UNIT ....

◢USAGE

Rail-mount unit for attaching to a standard device rail 25 x 10 mm. Consists of a Kolibri compact flow meter for dosing the flow and a Woodpecker -90 ejector with a vacuum gauge, fine-dosing valve and quick-action valve.
Accessories necessary for operation: • Connection hose
The following accessories can be connected: • Drainage system (recommended)
    • Nebuliser or humidifier (disposable or reusable)

TECHNICAL DATA

RAIL UNIT	
Gas type:	Oxygen
Primary pressure:	450 kPa ± 50 kPa
Inlet:	NIST housing in accordance with DIN EN ISO 18082
Design:	Rail clamp with knurled nut for standard device rail 25 x 10 mm Gas inlet integrated
Material:	brass, polished chrome-plated
KOLIBRI FLOWMETER	
Design:	10-step stop adjust flow meter in accordance with DIN EN ISO 15002; Standard 0-15 l/min
Material:	Housing: brass, chrome-plated
Adjusting ring:	plastic
Outlet:	9/16"-18 UNF with barbed connector*
WOODPECKER-90 VACUUM REGULATOR	
Design:	Vacuum generation according to the Venturi principle
Material:	Housing: brass, chrome-plated incl. quick-action valve
Regulation range:	see Woodpecker -90
Outlet:	9/16"-18 UNF with barbed vacuum connector

*suitable for connecting humidifiers or disposable humidifiers

Item no. 902.676 ....

HAWK F. RAILS, NIST	(connection hose / see Page 044)	
Hawk O2, Woodpecker -90 +Kolibri flowmeter, NIST		902.676
Hawk O2, Woodpecker -90 + Kolibri flowmeter, rail, NIST		902.677

Accessories

...............Drainage overflow bottle

◄ USE OF DRAINAGE OVERFLOW BOTTLE

Drainage overflow bottle (250 ml) to protect the vacuum regulator against oversuction with secretion or body fluids. Sterilisable to 134°C

TECHNICAL DATA

Design:	Suitable for connection to a vacuum regulator. Bottle with 250 ml total volume
Material:	Head: brass, chrome-plated Bottle: plastic
Inlet:	9/16"-18 UNF union nut
Outlet:	Barbed vacuum connector

DRAINAGE OVERFLOW BOTTLE

Drainage overflow bottle 250 ml	900.913
Drainage overflow bottle 250 ml f. AIR or Woodpecker	900.911
Bottle (APEG)	900.924
Bottle (glas)	900.925

...........................Humidifier bottle

◄ USE OF HUMIDIFIER BOTTLE

For use in insufflation or inhalation.
Humidifier-sputterer for the humidification of e.g. oxygen, compressed air.

TECHNICAL DATA

Design:	Suitable for connection to a flowmeter. Bottle with 250 ml total volume for sterile water (aqua dest.).
Material:	Head: brass, chrome-plated Bottle: plastic
Medium:	O2 + AIR
Inlet:	9/16"-18 UNF (union nut)
Outlet:	6 mm barbed connector (humidifier)
Dimensions (WxHxD) / Weight:	90 x 190 x 55 mm / 335 g (humidifier)

HUMIDIFIER BOTTLE

Humidifier unit, complete	904.836
Bottle, 250 ml, imprinted	900.922

Accessories

GREGGERSEN

ACCESSORIES FOR PORTABLE SUPPLY UNIT

Hose connection for flowmeter, 9/16" with stepped barbed connector	900.619
Hose connection for vacuum regulator	900.628

FLOWMETER SPARE PARTS

Hose connector for flow meter with 9/16" union nut	900.619
Measuring tube, 0-6 l/min incl. measuring ball	900.490
Measuring tube, 0-15 l/min incl. measuring ball	900.491
Measuring tube, 0-30 l/min incl. measuring ball	900.492
Measuring tube	900.493
Flowmeter repair kit	900.430
Kolibri flowmeter repair kit	900.431
Med. flowmeter servicing fee	902.049
Kolibri flowmeter servicing fee	902.047
O-Ring (18,77 x 1,78)	100.114
O-Ring (6 x 2)	102.083