

Spritzpistole	PN	2
Spray Gun	PN	2
Pistolet pulvérisateur	PN	2
Pistola pulverizadora	PN	2
Pistola a spruzzo	PN	2

Betriebsanleitung
Operating manual
Instructions de service
Instrucciones para el servicio
Istruzioni per l'uso

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1 Intended use

The intended use for the **ABAC** Spray Gun PN 2 is to spray paints and lacquers. The spray gun should only be used for paints which the manufacturers have approved for application with a spray gun. For example:

 Patina paints, 2-component lacquers, synthetic resin alkyd lacquers, acrylic and dispersion paints, special-effect lacquers, insulation and flame-proofing paints, sprayed waxes.

The processing and safety instructions of the respective paint manufacturer must always be observed.

Only lacquers and solvents with a flash point exceeding 21 °C may be sprayed.

The **ABAC** Spray Gun PN 2 must only be operated with low-pressure compressors manufactured by **ABAC**, or with a **ABAC** pressure transducer. In conjunction with a **ABAC** pressure transducer (special accessory), the spray gun may also be connected to a compressor installation or compressed-air network (capacity at least 250 l/min at 2.5 to 4 bar).

2 Brief description

The **ABAC** Spray Gun PN 2 consists of the actual spray gun and the screw-mounted paint container. The air is supplied to the spray gun by way of the connected air hose of the **ABAC** low-pressure compressor.

The air flows through the pressure hose into the paint container where the pressure results in a uniform flow of paint.

The trigger releases the paint contained in the paint container for spraying through the nozzle. The flow of air atomizes the paint at the air head. The amount of paint sprayed is adjustable with the setting screw (Fig. 4, No. 215).

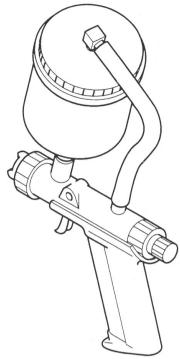


Fig. 1

3 Technical data

 Mean sound level, DIN 45635, 	
incl. compressor SG 90 E	80 dB (A)
 Only for paint with a flash point exceeding 21° C 	
O Maximum operating pressure	0.4 bar
O Length	approx. 180 mm
LengthWidth	
	approx. 110 mm
O Width	approx. 110 mm approx. 350 mm

4 Safety notes

Besides this Operating Manual, and the requisite statutory safety regulations applicable in the country and place of use, operators must also abide by the recognized codes of practice for safe and workmanlike operation.

4.1 Principles; correct use

- The ABAC Spray Gun PN 2 is designed according to the very latest technical findings and complies with recognized safety regulations. However, if used improperly, there is a risk for life and limb for the user or other persons, and both the spray gun and property can be damaged!
- The ABAC Spray Gun PN 2 should only be used for its intended purpose and when it is in a perfect working order. The user must be safety conscious, fully aware of the risks, and follow the operating instructions! Faults that could impair the operating safety of the spray gun must be immediately remedied by an authorized person!
- The ABAC Spray Gun PN 2 must only be operated with the low-pressure compressors produced by ABAC or with a ABAC pressure transducer (special accessory). In conjunction with the ABAC pressure transducer, the spray gun can be connected to a compressor system or compressed-air network (capacity at least 250 l/min at 2.5 and 4 bar). Any other use is not in keeping with its intended application. The manufacturer/supplier is not liable for any consequential damage from improper use which will be entirely at the user's risk.
- The manufacturer's guarantee for the ABAC Spray Gun PN 2 becomes null and void in the event of unauthorized changes and repair.

4.2 Operating safety

- The demands of the requisite accident prevention laws ("Application of Coating Materials" (VBG 23) must be observed.
- Any person using the ABAC Spray Gun PN 2 must have read and understood these operating instructions, but particularly the chapter "Safety Notes".
- Use only lacquers and solvents with a flash point of 21 °C and higher without additional heating (see details on the paint container).
- Ensure effective ventilation when working in closed rooms.

- Ensure that there are no ignition sources in the vicinity, e.g. naked flames, sparks, glowing wires, hot surfaces, lighted cigarettes, etc. The distance between a potential ignition source and the sprayed jet must be at least 5 m (fire and explosion hazard in connection with combustible sprayed mist).
- The sprayed paint emerges from the nozzle at a high pressure. Never direct the spray jet at people or animals! There is a risk of infection if the skin is injured by the paint, lacquer or solvent. Seek immediate medical treatment and inform the doctor which paint, lacquer or solvent was used.
- Poisonous fumes may be given off during spraying (see details on the paint container). Wear a face mask in keeping with the instructions of the paint manufacturer. Keep children and other people well away from the work area.
- Keep the ABAC Spray Gun PN 2 in a secure place that is inaccessible to children and unauthorized persons. Ensure that unauthorized persons (particularly children) cannot operate the ABAC Spray Gun PN 2.
- Store the ABAC Spray Gun PN 2 in a dry room.
- Use only original ABAC accessories and original ABAC spare parts.
- Always turn off the compressed air supplied by the compressor or the ABAC pressure transducer before the paint container of the ABAC Spray Gun PN 2 is refilled with paint.
- Repairs must only be performed by authorized specialist firms or by ABAC. A list of authorized firms can be supplied by us or your dealer upon request.
- Take care not to spray in the direction of the compressor.
- Dispose of cleaning and paint waste in conformity with the instructions of the manufacturer.

5 Transport and storage

The **ABAC** Spray Gun PN 2 is supplied in a cardboard box. Use the supplied box for transport and storage to prevent damage. Store the **ABAC** Spray Gun PN 2 in a dry room.

6 Starting-up and operation

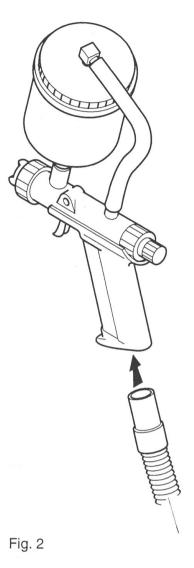
6.1 Connecting the spray gun

• Insert the air hose of the ABAC low-pressure compressor into the insulated handle of the spray gun (Fig. 2).

6.2 Paint preparation

To ensure trouble-free spraying and to produce a perfect sprayed surface it is essential to pay special attention to the preparation of the paint or lacquer that is to be sprayed.

If necessary, thin the paint before spraying with the solvent specified by the manufacturer. Add enough thinner so that, after sufficient stirring, the paint easily runs off the stirrer. To avoid uncertainty, we recommend the use of a viscosity measuring cup. The time taken for the paint to run out of the cup indicates whether the paint is still too thick and requires further thinning. As a general rule, the run-out time is 18 to 30 seconds (DIN), and for special-effect lacquers and paints 25 to 50 seconds (DIN) (see also Section 13 "Annex"). These values have been established at a temperature of 20 °C. Paint manufacturers usually specify the most favourable spraying consistency for their products.



Proceed as follows to measure the paint viscosity:

Thin the paint or lacquer to spraying consistency. Then immerse the viscosity measuring cup until it is full to the brim. Quickly remove the cup and count the number of seconds until all the paint it holds has drained through the 4 mm hole, i.e. up to the moment when there is a break in the flowing paint. Use a wristwatch or stopwatch to count the seconds. Where, for example, a consistency of 19 seconds (DIN) is required, but the test result is 24 seconds (DIN), the paint will have to be thinned accordingly and the measurement repeated.

The viscosity cup must be immediately cleaned after the measurement so that it can be reused for the next measurement.

 After thinning and stirring, strain the paint into a clean container, using a fine-mesh paint and lacquer sieve, or nylon fabric for this purpose.

Our motto: "Correct thinning is half the battle!"

6.3 Selecting the correct nozzle

Before spraying it is necessary to choose the correct nozzle for the given paint and the object that is to be sprayed (see also ch. 13 "Annex"). The standard nozzle set of 1.0 - 1.5 - 2.0 mm is sufficient for normal spraying work, namely:

- With low-viscosity paint, and when spraying small objects or surface areas, use the 1.0 mm nozzle; for large surface areas use the 1.5 mm nozzle.
- With normal paints and lacquers, and for objects with larger surface areas, use the 1.5 mm nozzle.
- With high-viscosity paint, and when applying thick coats (e.g. floating lacquering), use the 2.0 mm nozzle.
- Other nozzle sizes are available for special applications:
 0.5 0.8 1.2 1.8 2.5 3.0 mm (special accessories).

6.4 Setting the paint jet

- To set a wide or circular-section jet (see Fig. 3) loosen the nozzle coupling nut (Fig. 4, No. 221) and then turn the air head (Fig. 4, No. 220) to the required position.
- The wide jet is normally used for larger surface areas, whereas the circular-section jet is used for edging or spraying small and narrow areas.
- Paint consumption depends primarily upon the correct paint jet setting for the given object to be sprayed.

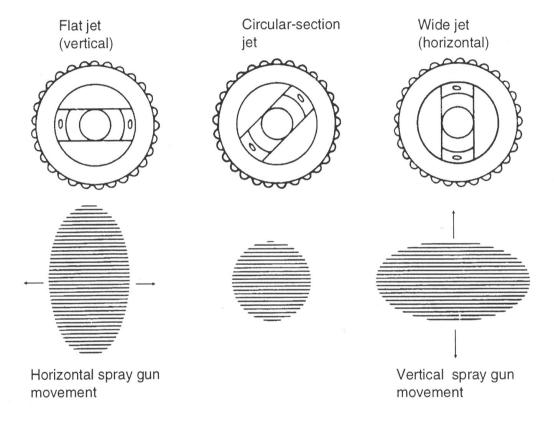


Fig. 3

6.5 Setting the spraying rate

The paint quantity is regulated with the setting screw (Fig. 4, No. 215). Screw in the setting screw to limit the movement of the trigger (Fig. 4, No. 204), and thus also the nozzle needle path. This setting facility should be used with very fine paint applications, e.g. stencil painting, patination, matt misting, etc. The movement path of the trigger is restricted when the setting screw is tightened. In this event the trigger should only be pulled back to this shortened pressure point.

6.6 Filling the paint container

The paint container should only be filled to a level 2 cm below the brim. Close the lid securely. The spray gun will not work properly if the lid has not been tightly closed. **WARNING:** Do not lay down the filled spray gun, but rather place it on a stand so that the paint cannot flow into the pressure hose through the small opening in the lid of the paint container. We recommend the use of our spray gun stand for this purpose.

- The paint must first be thinned to spraying consistency in order to obtain the optimal spray gun setting. Before starting the actual spraying work it is advisable to spray a specimen (e.g. on cardboard or wood). Start spraying only after the result of specimen spraying is satisfactory.
- Ensure that the adjoining areas of the object to be sprayed have been carefully covered.

7 After paint spraying has finished

First turn off the ABAC low-pressure compressor or disconnect the air supply from the ABAC pressure transducer. Then disconnect the air hose from the insulating handle of the ABAC Spray Gun PN 2.

8 Care, maintenance and repair



Always disconnect the air hose of the **ABAC** low-pressure compressor from the spray gun prior to all care, maintenance and repair work.



Repairs must only be performed by authorized specialist firms or by **ABAC**. A list of authorized firms can be obtained from us or your dealer.

A special after-sales service for the **ABAC** Spray Gun PN 2 is not necessary. However, the packing seal and the lid seal must be replaced when they are wom out (see Trouble Shooting on page 13).

8.1 Cleaning the spray gun

The spray gun must be cleaned immediately after the spraying work has been completed. Proceed in the following manner for this purpose:

Pour out any remaining paint and rinse out the paint container thoroughly with a suitable solvent. Actuate the trigger several times while rinsing to ensure that the paint channels and nozzle are cleaned. Carefully clean the brim of the cup and the lid with a soft cloth or brush and a suitable thinner. On no account should sharp-edged tools be used as these may damage the sealing surface of the cup and lid.

Dried paint residues on the air head (Fig. 4, Nos. 219 and 220) must not be scratched off with a hard object. Immerse the air head in a thinner for few minutes and then remove with a brush.

NOTE! After working with water-soluble paints such as acrylic paints, dispersions and binder emulsions, the nozzle, nozzle needle, trigger and the thread of the spring bushing (Fig. 4, No. 208) must be lightly oiled after cleaning.

If corrosive cleaning agents are used, the spray gun components must be rinsed with clean water immediately after cleaning and then thoroughly dried to prevent corrosion.

Never immerse the entire spray gun in corrosive cleaning agents or thinner.

The cover seal of the paint container must be replaced if leaking or defective.

8.2 Exchanging the nozzle

Unscrew the nozzle coupling nut (Fig. 4, No. 221) and then remove the air head (Nos. 219 and 220). The nozzle is exchanged with the supplied nozzle spanner (No. 223).

8.3 Removing the nozzle needle

Unscrew the spring bushing (Fig. 4, No. 208) from the housing (No. 201), unscrew the setting screw (No. 215) from the spring bushing, and push the nozzle needle (No. 209 to 212) out to the back. This will simultaneously push out the pressure spring (No. 213) and the shim (No. 214).

8.4 Mounting the nozzle needle

Reverse the previously described procedure to fit the nozzle needle.

The nozzle needle is sealed by a packing (Fig. 4, No. 205). The slotted screw (No. 207) which engages in the thread of the nut (No. 206) presses the packing seal against the nozzle needle. Tighten the slotted screw with the supplied nozzle spanner (remove the nozzle needle) if paint oozes out of the seal. Renew the packing if paint leakage continues.

8.5 Changing the packing seal

Proceed in the following manner to replace the packing seal:

Unscrew the spring bushing (Fig. 4, No. 208) from the spray gun housing (No. 201) and remove it together with the nozzle needle (No. 209 to 212). Withdraw the trigger (No. 204) sideways out of the spray gun housing. Unscrew the slotted screw (No. 207) from the nut and take out the faulty packing seal. Unscrew the nozzle coupling nut (No. 221) and remove the air head (Nos. 219 and 220). Unscrew the nozzle and push the nozzle needle forwards through the adapter (No. 203). Then slip the new packing seal and slotted screw over the projecting nozzle needle. The nozzle needle is then retracted while the slotted screw is screwed into the nut with the supplied nozzle spanner. Check the spray gun for leaks after the nozzle needle has been inserted into its normal position.

9 Faults, possible causes and remedies



Do not use hard or sharp-edged tools for cleaning purposes.



Fault	Possible Cause	Remedy
Paint flows into the spray gun housing	Packing seal of nozzle needle either leaking or defective	Clean spray gun, tighten or exchange seal packing
	Paint has passed from the cup through the pressure hose into the housing	Clean the spray gun and pressure hose. Always hold the spray gun vertical
Individual drops appear in the sprayed coat	Clogged nozzle	Clean nozzle
in the sprayed coat	Nozzle damaged or worn out	Replace nozzle
	Nozzle needle damaged	Replace nozzle needle
	Paint does not have the correct spraying consistency	Check the spraying consistency of the paint
Paint still emerges from the nozzle after the trigger has been released	Nozzle or nozzle needle damaged	Replace nozzle or nozzle needle
tilgger ride been released	Setting nut on the nozzle needle has been misadjusted and not reset	Tum back the setting nut on the nozzle needle until there is sufficient play between disk and nut
Spray gun does not deliver any paint or sprays unevenly	Lid is not properly closed	Carefully clean the lid and cup rim and, if necessary, replace the lid seal
, ,	Angle-piece and/or pressure hose blocked	Clean angle-piece and pressure hose
	Nozzle blocked	Clean nozzle

Fault	Possible Cause	Remedy
Wide jet uneven	Side holes in air head clogged Clean air head	
Paint jet sprays to one side	Paint has accumulated on the outside of the nozzle	Clean the nozzle
	Nozzle is not tightly seated	Tighten the nozzle
	Holes in the air head are clogged	Clean the air head

10 Operating instructions

The user must draw up instructions for the safe operation of the **ABAC** Spray Gun PN 2 in the language of the employees in keeping with its manner of use and point of installation, and on the basis of this Operating Manual. These instructions must be displayed at a suitable point at the place of work, and it must be ensured that the employees observe these instructions.

11 Spare parts



For reasons of safety use only original **ABAC** spare parts!



Spare parts are available from your ABAC dealer or directly from ABAC.

We require the following details for speedy and efficient settlement of spare parts orders:

- Serial No. ABAC Spray Gun PN 2
- Order number and designation of the spare part
- Quantity of spare parts required
- Your address!

Fig. No.	Qnty.	Part designation	Order No.
Spare par			
201	1	Spray gun housing	HE 300 161 0122
202	1	Insulating handle	HE 300 166 0320
203	1	Adapter for nozzle	HE 300 161 1514
204	1	Trigger	HE 300 160 2110
205	1	Packing seal	HE 300 161 1200
206	1	Hexagon nut	B0 300 161 4411
207	1	Slotted screw	B0 300 161 6201
208	. 1	Spring bushing	HE 300 166 1001
209	1	Nozzle needle	
211	1	Hexagon nut, self-locking	,
212	1	Spring plate	
209 - 212	1	Complete nozzle needle assembly	BJ 000 971 0400
213	1	Pressure spring	H5 970 560 0101
214	1	Shim	H5 810 371 0000
215	1	Setting screw	HE 300 161 1401
216	1	1.0 mm dia. nozzle	HE 300 161 2022
217	1	1.5 mm dia. nozzle	HE 300 161 2032

Fig. No.	Qnty.	Part designation	Order No.	
218	1	2.0 mm dia. nozzle	HE 300 161 2042	
219 - 220	1	Complete air head assembly	BJ 000 971 0200	
221	1	Nozzle coupling nut	B0 300 161 1906	
223	1	Nozzle spanner	B0 300 162 5104	
224	1	Adapter	HE 300 161 3110	
225	1	O-ring	H5 108 160 5176	
226 - 228	1	Complete aluminium paint container with aluminium lid and Thiokol disk	BJ 000 971 0800	
226	1	Aluminium paint container without aluminium lid	B0 300 161 7003	
227 - 228	1	Aluminium lid with Thiokol disk	B0 300 160 2401	
227	1	Thiokol disk	HE 300 161 7600	
229	1	Angle-piece	HE 300 161 7702	
230	1	Pressure hose, 8 x 260 mm	BJ 000 991 9504	

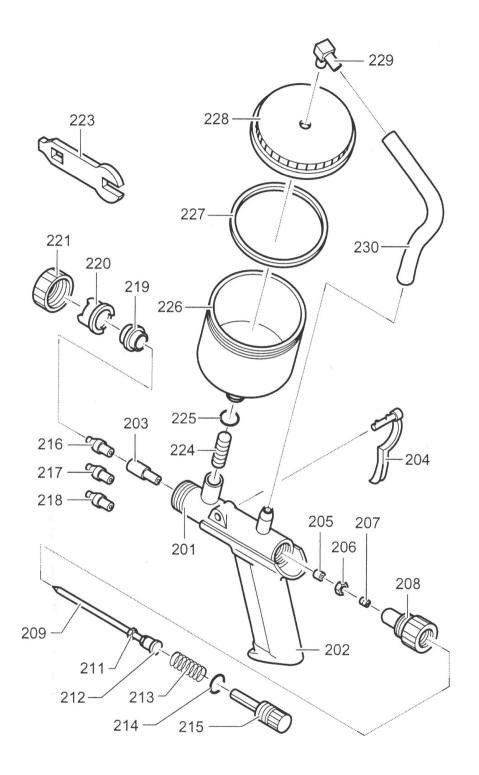


Fig. 4

12 Special accessories

Fig. No.	Qnty.	Part designation	Order No.	
		Special accessories (not illus.)		
	1	0.5 mm dia. nozzle	HE 300 161 2053	
	1	0.8 mm dia. nozzle	HE 304 161 2002	
	1	1.2 mm dia. nozzle	HE 300 161 2008	
	1	1.8 mm dia. nozzle	HE 304 161 2022	
5	1	2.5 mm dia. nozzle	HE 300 161 2062	
	1	3.0 mm dia. nozzle	HE 300 161 2072	
		Swivel (Figs. 5 and 6)		
201	1	Complete swivel for paint container	H1 025 330 0020	
207	1	O-ring A 14 x 18	H5 108 160 5176	
208	1	Pressure hose, 8 mm internal dia., 360 mm long	BJ 000 991 9507	
		Spraying lance (Fig. 7)		
401 - 403	. 1	Complete nozzle needle	BJ 000 971 0500	
404	1	Spraying lance with nozzle	B0 311 160 3301	
405	1	Securing spring	HE 311 162 6000	
406	1	Attachment pipe	B0 311 160 3210	
407	1	Nozzle attachment piece	B0 311 162 0700	
		Pressure transducer (Fig. 8)		
301	1	Complete pressure transducer	BJ 310 160 3031	
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Swivel between spray gun housing and paint container (Figs. 5 and 6)

- Use the swivel (Fig. 5, No. 201), available as a special accessory, to spray upwards whilst keeping the paint container vertical.
- First withdraw the angle-piece (Fig. 4, No. 229) from the paint container lid, and then remove it from the pressure hose. Now remove the pressure hose from the spray gun and replace with a longer pressure hose (Figs. 5 and 6, No. 208).
- Unscrew the paint container and the brass adapter (Fig. 4, No. 224), using the nozzle spanner for this purpose. Now remove the O-ring (No. 225) from the adapter.
- Remove the hexagonal (Fig. 6, No. 206) and the O-ring (Figs. 5 and 6. No. 207) from the swivel. After removing the O-ring screw the hexagonal nut back onto the thread of the swivel. Then place the O-ring on the thread of the swivel and screw the swivel with O-ring and hexagonal nut into the spray gun housing. Now tighten the hexagonal nut. Place the O-ring (Fig. 4, No. 225) on the top thread of the swivel and screw on the paint container and tighten. Finally, insert the anglepiece (No. 229) in the lid of the paint container, and attach the longer pressure hose (Fig. 5, No. 208) to the spray gun housing and the angle-piece.

IMPORTANT! The wing nut (Fig. 6, No. 205) must not be tightened to the point where the cup cannot be moved.

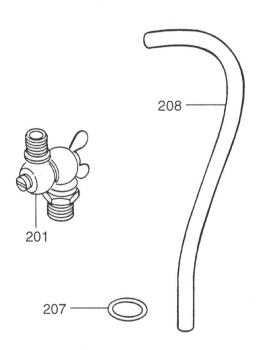


Fig. 5

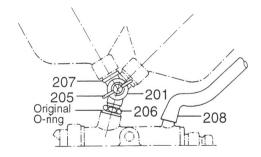


Fig. 6

● Lance for spraying points that are not readily accessible (Fig. 7)

Unscrew the nozzle coupling nut (Fig. 4, No. 221) from the **ABAC** Spray Gun PN 2. Now remove the air head (No. 219, 220) and nozzle (Nos. 216, 217, 218). Then dismantle the nozzle needle as described in ch. 8.3.

Insert the nozzle needle (Fig. 7, No. 401) in the spring bushing (Fig. 4, No. 208). Insert the pressure spring (No. 213) and the shim (No. 214), and then screw the setting screw (No. 215) into the spring bushing (No. 208). The parts assembled in this manner are now inserted into the spray gun housing.

Screw in the nozzle tube (Fig. 7, No. 404) in place of the normal nozzle and tighten slightly.

Insert the attachment lance (No. 406) with released nozzle attachment piece (No. 407) into the spray gun housing and tighten slightly with the coupling nut (Fig. 4, No. 221). Tighten the nozzle attachment piece (Fig. 7, No. 407) slightly so that it can still be turned to any required position for spraying.

After reassembly, the trigger (Fig. 4, No. 204) should still have a slight measure of play. It must not be in contact with the front of the spray gun housing, otherwise the nozzle needle will not close tightly. The measure of play can be increased by readjusting the self-locking hexagonal nut (Fig. 7, No. 403) on the nozzle needle.

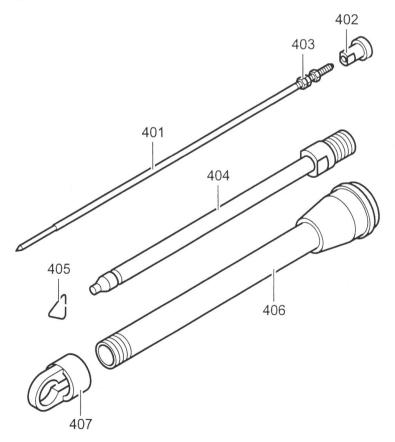


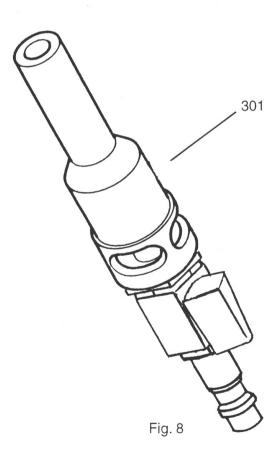
Fig. 7

 Pressure transducer for connection to compressed-air systems with a capacity of at least 250 l/min. at 2.5 to 4 bar operating pressure (Fig. 8)

Insert the pressure transducer (special accessory) into the handle of the spray gun, and then the pressure hose is connected.

The coupling element of the shut-off coupler functions as a cut-off valve.

The flow of air can be adjusted according to the type of paint being sprayed by adjusting the pressure-reducing valve of the compressed-air system accordingly.



13 Annex

Specifications for spraying with the **ABAC** Spray Gun PN 2, measured with a 4 mm viscosity cup at a spray paint temperature of 20 °C.

Paint	Nozzle mm	Jet Flat	Round	Viscosity Sec.(DIN)	Thinning Vol-% ca.
Zapon lacquer	0,8-1-1,5	X	X	16-20	10
Sanding sealer, dull	1,5-2	Х	X	16-20	10
polish, polishing					
varnish, etc.					
Patina paints	0,5-0,8-1	Х	X	original	not thinned
Filler undercoat	1,5 -2-2,5	Х	X	20-30	10
2-component lacquer DD, clear lacquers	1-1,5-2	Х	Χ	16-25	5
Pigmented lacquers	1-1,5-2	Х	X	16-30	5
Synthetic alkyd resin and acrylic lacquers	1-1,5-2	X	Х	16-25	10
Silk gloss varnishes	1,5-2	Х	X	16-25	10
Radiator lacquers	1,5-2	Х	X	17-21	10
Acrylic and dispersion paints	2-2,5-3	Х	X	20-30	10
Undercoat oil paints	1,5-2	Х	X	16-25	10
Plastic lacquers, PVC	1,5-2	Х	X	20-30	10
Fillers, polyester DD synthetic resin, etc.	1,5-2-2,5	Х	Х	18-30	10
Stipple effect lacquer	1,5-2-2,5	Х	Χ	30-40	10
Hammer finish	1,5-2-2,5	Х	X	20-25	10
Sigmulto, Diwatone/ Alphatone, Jäger mosaic paints, aquaria, colour effect paints	2,5-3		X	original	not thinned
Insulating/flameproofing impregnating oils	1,5-2-2,5	Х	Х	original	not thinned
Anticorrosive primers	1,5-2	Х	X	16-25	5
Reaction primer, aluminium bronze	1-1,5-2	Х	Χ	original	not thinned
Finish spraying waxes	1-1,5-2	Х	Х	original	not thinned

Mottled paint application is possible if the entire air head is removed from the spray gun.