Color marking device

1.178

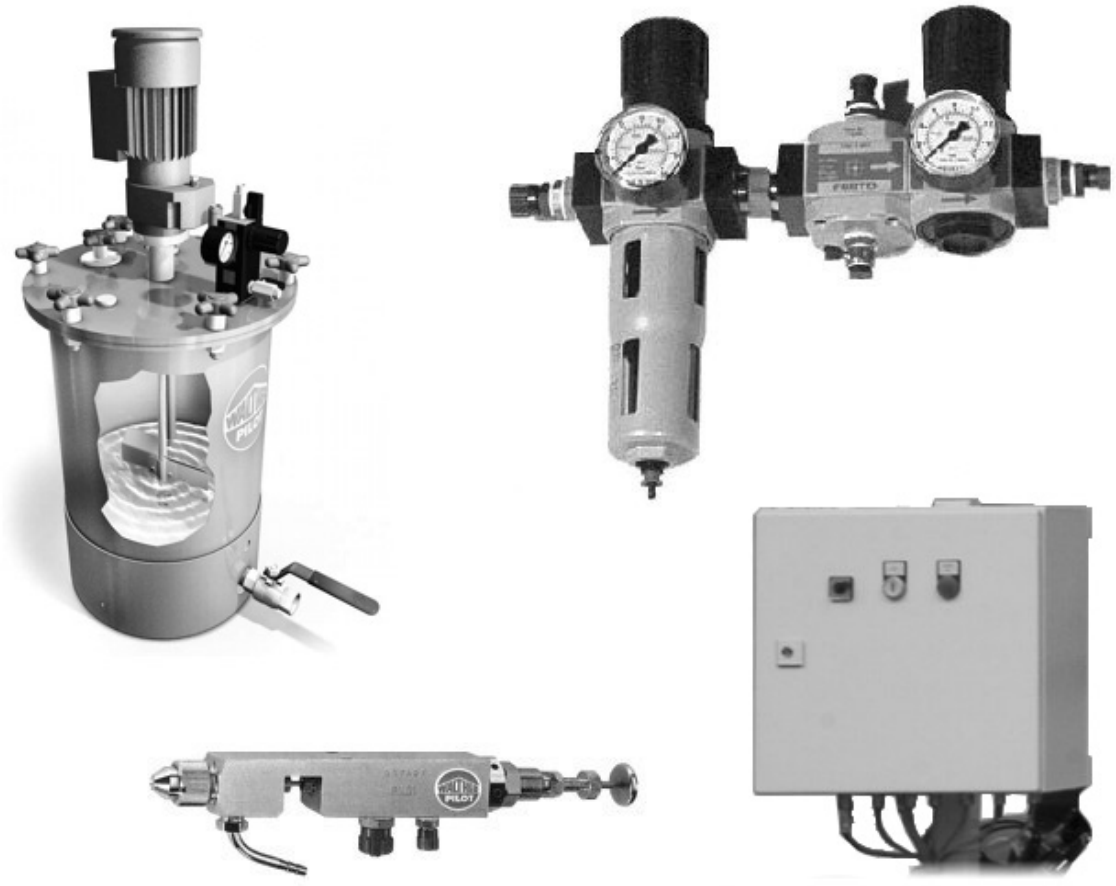

Fig 1 Components of the color marking device

Application

The color marking device is used for automatically marking of the defects detected by non-destructive material testing. Type number 1.178.01 is the single-channel version and allows marking the defects with one color. If you want to distinguish between different types of defects (e.g. longitudinal and transverse defects, external and internal defects, different defect size) you can use a combination of several units and feed them with different colors. Dual, triple and quadruple versions are available with the type numbers 1.178.02, 1.178.03 and 1.178.04.

For integration of the color marking device into a testing line there are quadruple till tenfold channel versions with suitable holder available with type numbers 1.178.14 till 1.178.20.

The most important characteristics of the color marking device are

- Extremely short response time
- Compact design
- Position-independent installation
- Connection to the existing industrial compressed air network
- Marking paints of various consistencies can be used

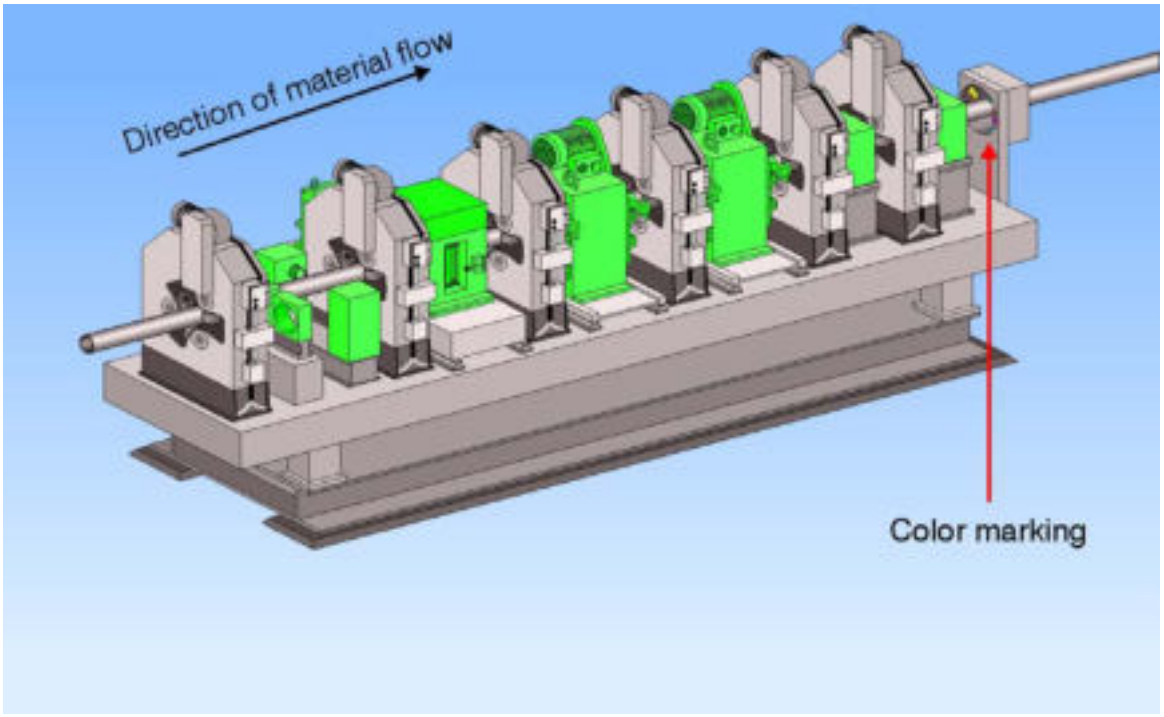

Fig 2 The color marking device integrated into a testing line

In general a complete color marking device consists of

- Marking unit
- Color marking control
- Material pressure vessel for color
- Pneumatic filter control unit
- Paint and compressed air hoses

Marking unit

The marking unit consists of the spraying device (Fig 3, Item 3) that is controlled by a solenoid valve (Fig 3, Item 2). The marking unit is mounted on the assembly plate (Fig 3, Item 1) of the color marking device.

The spraying device allows simple and rapid removal and installation for adjusting the material nozzle and for cleaning.

The color from the material pressure vessel feeds the spraying device.

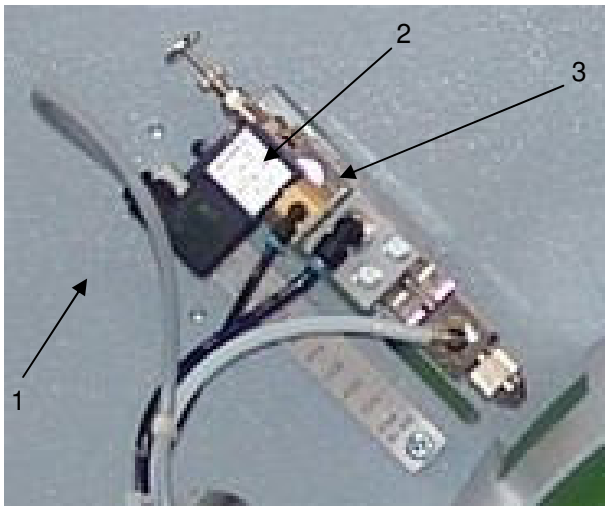

Fig 3 Installed spraying device

Color marking control

The color marking control controls the solenoid valve, that switches on and off the control air to the spraying device.

Fig 4 Color marking control

Material pressure vessel for color

The material pressure vessels contain color and thus provide the spraying devices with marking color. A gauge pressure presses the marking color from the pressure vessel to the spraying device via the color hose.

The pressure vessel has its own pressure regulator for setting the container pressure. This is why compressed air may be taken from the compressed air network without being regulated.

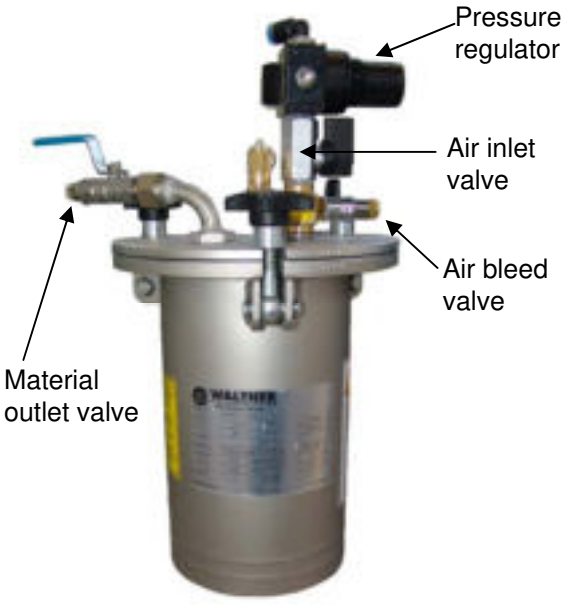

Fig 5 Material pressure vessel for color

Pneumatic filter control unit

The pneumatic filter control unit provides the spray air for the spraying device.

It consists of a filter pressure regulator valve with an automatic water separator and the pressure regulator valve for the spray air. The pressure regulator is connected to the filter pressure regulator valve with a branching module.

The air for the pressure vessel and the control air are connected at the branching module and the spray air at the pressure regulator.

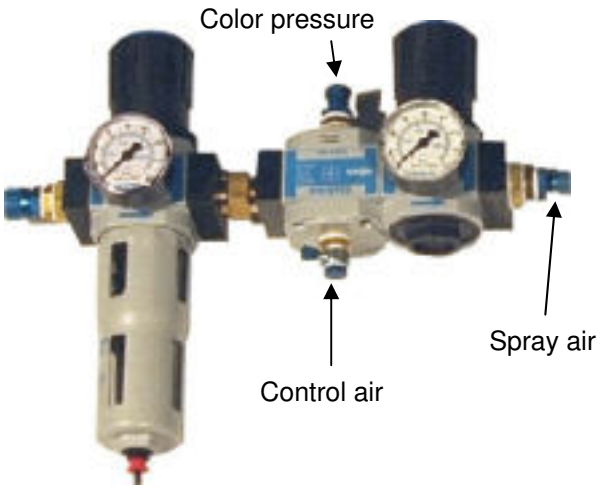

Fig 6 Pneumatic filter control unit

Ordering instructions

Designation	Part-No.	Order-No.
Default- Color marking 1-channel	1.178.01	1944576
Default- Color marking 2-channel	1.178.02	1944584
Default- Color marking 3-channel	1.178.03	1944592
Default- Color marking 4-channel	1.178.04	1944606

	Color marking
Rated voltage for triggering the solenoid valve	24 V ± 10%
Air pressure at entry side of the filter control unit	min. 4 bar, max. 8 bar
Control air	min. 4 bar
Spray air	2 to 4 bar
Container pressure	0.5 bar
Spraying device type	PILOT Signier V 2036010083 (Walther)
Material pressure vessel for color type	V 4402130003, MDG2 (Walther)
Ambient temperature at operation	-10 °C to +40 °C
Relative humidity at operation	8 to 80%
Storage location	Closed space, in unopened original packaging
Ambient temperature at storage	-10 °C to +50 °C
Relative humidity at storage	max. 95%, non-condensation
Storage time	max. 12 months (extension possible following intermediate check by FOERSTER staff)
Suitable color	All commercially available marking colors with suitable drying time; ink as well
Required viscosity, measured with flow cup in accordance with DIN 53 211	15 to 20 sec higher viscosity is permitted
Suitable cleaning agents	For standard marking color AE116 we recommend thinner V111, for other colors only use cleaning agents specified by the manufacturer of the marking color
Not permitted substances	Ecologically damaging halogenated hydrocarbons (e.g. 1,1,1-trichloroethane, methylene chloride), acids and acid cleaning agents, regenerated solvents (so-called cleaning dilutions), paint removers

Fig 7 Flow cup in accordance with DIN 53211 for checking the color viscosity

Should you have any special problems please contact:

Institut Dr. Foerster GmbH & Co. KG
Division TS Semi-finished product testing
In Laisen 70
72766 Reutlingen
GERMANY
Phone +49 7121 140-272
Fax +49 7121 140-459
ts@foerstergroup.de
www.foerstergroup.de

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Author Urban

FOERSTER TECOM, s.r.o.
U Tvrze 13/30
108 00 Praha 10
Czech Republik
Tel.: +420 2 72658542
Fax.: +420 2 72658417
Email: foerster@foerster.cz

FOERSTER FRANCE SAS
Parc Work Center - Bat. A
8, Route de Bois
38500 Voiron
France
Tél.: +33 (0) 4 76 05 57 01
Fax.: +33 (0) 4 76 05 32 59
Email: nouguier.michel@foerstergroup.fr

FOERSTER UK Ltd.
2 Bonehill Mews, Lichfield Street
Fazeley, Tamworth
Staffordshire B78 3QU
England
Tel.: +44 1827 831290
Fax.: +44 1827 284982
Email: sales@foersteruk.com

FOERSTER ITALIA SRL
Via Dell'Artigianato 55
20083 Gaggiano (MI)
Italia
Tel.: +39 02 9084 1600
Fax.: +39 02 9082 197
Email: sede@foerster.it

FOERSTER RUSSLAND CJSC
B.Pod'yacheskaya Str. 9
190068 St.-Petersburg
Russian Federation
Tel.: +7 812 3187101
Fax.: +7 812 3187101 (*1)
Email: mail@foerster.ru

FOERSTER INSTRUMENTS INC.
140 Industry Drive
RIDC Park West
Pittsburgh, P.A. 15275-1028
USA
Tel.: +1 412 7888976
Fax.: +1 412 7888984
Email: sales@foerstergroup.com

FOERSTER JAPAN LTD.
1-6-3 Higashi-Gotanda
B1F Tokyo Tatemono Gotanda Bldg.
Shinagawa-ku
Tokyo 141-0022
Japan
Tel.: +81 3 57927041
Fax.: +81 3 57927042
Email: kidokoro@foerster.co.jp