

# Hydraucolor 500-S/950



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# Hydraucolor 500-S/950

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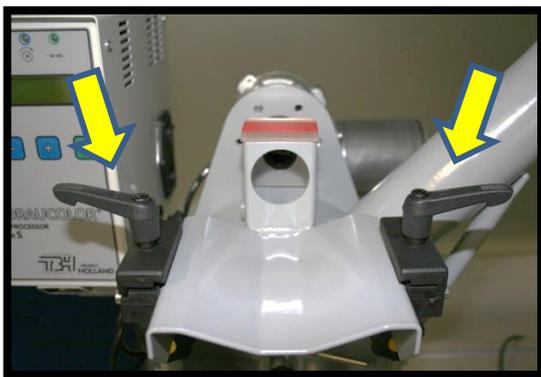
# Hydraucolor 500-S/950

## 1. SHORT DESCRIPTION

The colouring unit can be used for the mixing of masterbatch with virgin materials, directly on top of the Injection Moulding Machine (IMM). The colouring unit has to be installed between the injection kit and the hopper. The signal for dosing the additive in order to mix it together with the virgin in the mixing chamber, will be given simultaneously to the dosing signal or when the injection cycle starts.

### **Attention**

The S-version needs a potential free contact. Nr. 1-3 in the plug have to be connected!

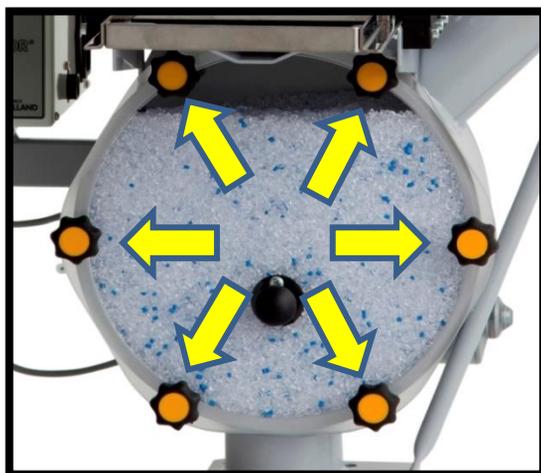


### Exchange of the dosing unit

Loosen the clamping handles and pull out the dosing unit. When replacing the dosing unit please pay attention that the positions of the coupling elements are in accordance with the drive

### **Attention**

Before entering the dosing quantity first install the dosing unit!



### Cleaning the mixing chamber

Loosen the 6 little star grips of the mixing chamber. Open the cover and clean the mixing chamber. When remounting the cover together with the mixing shaft please pay attention that the coupling elements of the mixing shaft are in accordance with the drive.

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## 2. Electrical cabling to injection molding machines

The colouring unit 500-S/950 needs a power of 220V-50Hz, 1Ph A.C.

### Control impulse

The enclosed plug has to be connected to a potential free contact while "dosing" or "injecting" of the IMM, which gives a closing contact to the microprocessor of the colouring unit in parallel to the drive pulse given to the plasticising screw or to the injection movement. The period of the pulse (min. 0,2 seconds) is of no importance, as the microprocessor will always obtain the colouring cycle as programmed.

### **Attention**

The S-version needs a potential free contact. Nr. 1-3 in the plug have to be connected!

## 3. Mechanical installation to the processing unit

The unit has to be mounted between the hopper and the processing machine. This requires a demounting of the hopper. Mount the colouring unit above the plasticising screw and adapt the hopper on the feeding support. For some types of processing machines special adapters are required. Please always indicate the machine type.

### **Attention**

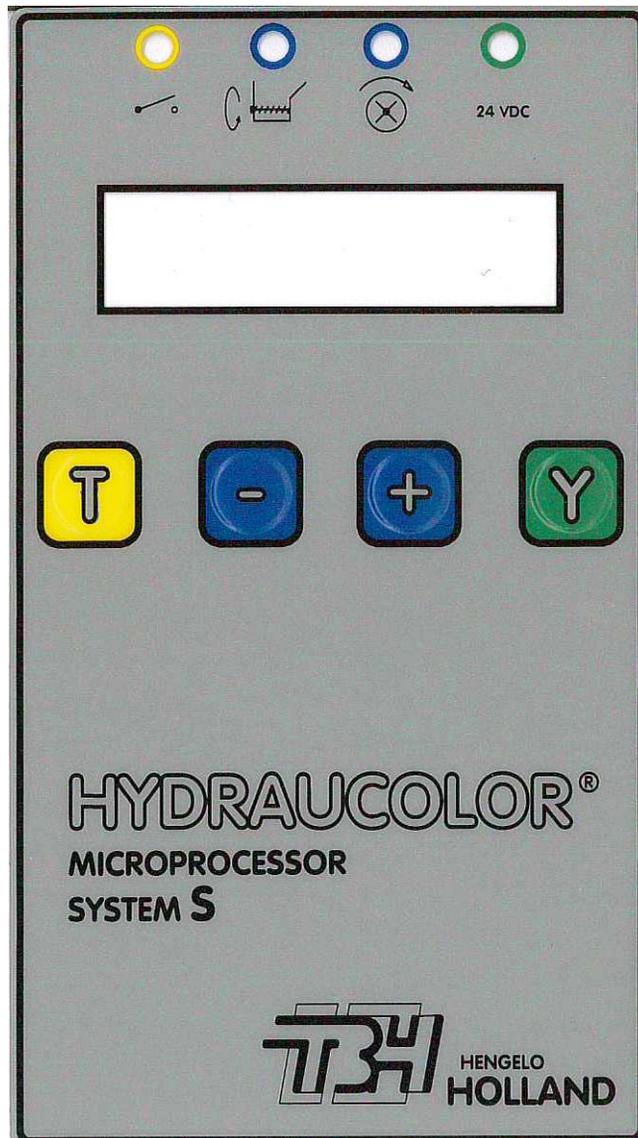
It is very important not to release the virgin material until the programming is finished!

### **Attention**

While mounting on the machine it is very important that temperature of environment should not be higher than 60C at the height of the control unit!!

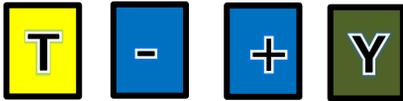
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## 4.0 PROGRAMMING



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## 4.1 Programming the control unit



Via the S-control unit an optimum dosing quantity as well as an accurate mixing time can be calculated respectively changed. The 3 keys "+ (blue) , - (blue) and Y (green)" can be used for programming the control unit.

Keys + (blue) and - (blue) are used for changing numbers and adjustments, with key

Y (green) these data have to be confirmed.

After pressing key T (yellow) the adjusted dosing quantity will be dosed and the added colouring and raw material will be mixed during the adjusted time.



After switching on net tension first indication is **HYDRAUCOLOR (size)-S** and depending on the programming you will see A (alarm contact/option) and T (tacho mixing)



After approx. 3 seconds last adjustments for dosing and mixing appear on the screen (main menu).

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DOSING 120  
MIXING TIME 03,5 Y



Y



CODE ?  
- +Y



- + Y

After pressing key Y (green) the screen indicates the word **CODE**. To be able to change adjustments you have to give in a code which is only available for authorized people.

After giving in the correct code and confirming with key Y (green) you will be able to programm. Screen lighting will automatically be switched off if the programming of the control unit is not used for 2 minutes. Eventually the code has to be given in again to be able to change data.

After pressing key Y (green) for at least 2 seconds you will see several settings menus, which are adjusted in principle once-only.

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## 4.2 SETTINGS

In the First menu you can select the language:

D = German

E = English

F = French

NL = Dutch



Selection is made by using the key + (blue) and confirming with key Y (green).



In the next menu you can select from different sizes:

500 for the 500-S/950. The requested type is to be selected with key + (blue) and confirmed with key Y (green).



Now you will find **TACHO MIXING**:

If you press + (blue) now, the **TACHO** can be switched on or off (confirmed with key Y (green)).

The **TACHO** checks whether the mixing motor is working every cycle or not. In case of error the yellow led with mixing symbol on top of the screen is flashing and this error can be corrected by switching off the net tension for 4 seconds.

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√ALARM CONTACT >  
> IMM +Y



The next menu is **ALARM CONTACT TO THE IMM** (option).

If this option is installed, switching on and off is possible by pressing the key + (blue) and confirm with Y (green).

If there is a connection between HYDRAUCOLOR and IMM the IMM will be stopped by a contact in the control unit (Max. 230V -5A) in case of a fault in the HYDRAUCOLOR.

√CODE >  
+Y



The next menu is **CODE**.

Switch on and switch of the code:  
The standardcode can be switched off by pressing key + (blue) (V for o.k. disappears or appears) and confirming with key Y (green).

√1X 5X  
2X 10X +Y



Adjusting the saving settings.

Rapid production of small parts:  
a savings-adjustment has been build in in order to decrease wear off and so extend duration of life of the motors.

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√1X	5X	
2X	10X	+Y



This means that a choice can be made between 2 pulses (cycles) or 5 pulses or 10 pulses, after which dosing and mixing happens over and over again only once. Under normal circumstances mixing and dosing is happening once at every pulse (cycle). At First adjustment has to be at 1 cycle, so 1x.

Dependent on size of the part a choice can be made from above mentioned options. For example: a part with a shotweight of a couple of grams can be adjusted at 10x.

The microprocessor converts every dosage quantity with factor 2, 5 or 10 over and over again. So duration of life will be extended with factor 2,5 or 10 in principle.

DOSING	120	
MIXING TIME	03,5	Y

Next screen is **DOSING** and **MIXING TIME** in the main menu.

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## 4.3 CALCULATION OF DOSING

DOSING 120 ^  
MIXING TIME 03,5 Y

Y

CALCULATION >  
OF DOSING +Y

Y

The main menu shows **DOSING** and **MIXING TIME**.

After pressing key Y (green) you will see **CALCULATION OF DOSING** now.

Before calculating the dosing quantity the following details are required:

- 1 Dosing quantity (10 rotations) = weight of the additives.
- 2 Percentage of additive
- 3 Shot weight

### 1. Dosing Quantity (10 rotations)

= weight of the additives.

#### **Attention**

first:

- Fill up the reservoir of the dosing unit;
- Remove the window from the mixing chamber;
- Use a little reservoir to collect the additive.

10 ROTATIONS  
=0,1 g -+Y

-

+

Y

After pressing key Y (green) you will see **10 ROTATIONS**

This value can be entered by pressing key + (blau) eventual correction with key - (blue) and confirmed with key Y (green).

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**PERCENT.ADDITIVE**  
=2,0% -+Y



This value can be entered by pressing key + (blau) eventual correction with key - (blue) and confirmed with key Y (green).

**SHOTWEIGHT**  
=5 g -+Y



This value can be entered by pressing key + (blau) eventual correction with key - (blue) and confirmed with key Y (green).

**DOSAGE UNIT MOUNTED ?** -Y



After giving in the 3 details the screen indicates **DOSAGE UNIT MOUNTED?**

**DOSING ONE TIME?** -Y

After confirmation by key Y (green) you will see **DOSING ONE TIME?**

**DOSING ONE TIME?** When pressing key - (blue) there is no dosing one time and you will return to the main menu.

**Now you need the little reservoir!**



By pressing key T (yellow) the control knob for manual dosing will turn 10 times 360 degrees. The weight of masterbatch collected in the little reservoir = the dosing quantity (10 rotations).



Everytime after pressing key T (yellow) the dosing quantity can be weight. After repeating this several time a average can be calculated. How more precisely the dosage is calculated su much better will be the colouring result!



After pressing key - (blau) you will see the main menu.

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The dosing quantity can also be calculated manual.

Now you need the little reservoir!



1. The knob for manual dosing must be turned clockwise until the additive is continuously flowing out of the dosing unit.
2. Turn the knob for manual dosing until point "0"
3. The knob for manual dosing has to be turned clockwise 10 times by  $360^\circ$  ( $10 \times 80 = 800$  division marks).
4. Weigh the outcoming quantity of additives.

After repeating this several times an average can be calculated. How more precisely the dosage is calculated so much better will be the coloring result!

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DOSING 120 ^  
MIXING TIME 03,5 Y

Y

CALCULATION OF DOSING ^  
+Y

Y

10 ROTATIONS  
=0,1 g --+Y

-

+

Y

PERCENT.ADDITIVE  
=2,0% --+Y

-

+

Y

SHOT WEIGHT  
=5 g --+Y

-

+

Y

DOSAGE UNIT MOUNTED ? -Y

Y

DOSING ONE TIME? -Y

Y

DOSING NOW WAIT -Y

Now you have the following details:

1. Dosing quantity (10 rotations) = weight of the additive.
2. Percentage of additive.
3. Shotweight.

Now you can repeat the steps mentioned in 4.3 calculation of dosing.

### **Attention:**

First:

Replace the window on the mixingchamber.  
Release the virgin material flow.

**10 ROTATION** = WIGHT OF THE ADDITIVE

**PERCENT ADDITIVE** = STATEMENT PRODUCER

**SHOT WEIGHT** = ACTUEL SHOT WEIGHT

After pressing **Y** (green) the colour is added to the virgin material in the mixing chamber.

At the same moment the mixing proces starts and after a few shots the correct colour is achieved!

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## 4.4 ADJUSTMENTS OF DOSING SETTINGS

DOSING 120 ^  
MIXING TIME 03,5 +Y

For adjustments press key **Y** (green).



CALCULATION OF DOSING ^  
+Y

**CALCULATION OF DOSING** will be indicated.



Press key **+** (blue)

DOSING >  
+Y

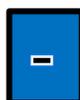
**DOSING** will be indicated



For adjustments press key **Y** (green).

DOSING 120 >  
-+Y

**DOSING 120** will be indicated



This value can be entered by pressing key **+** (blau) eventual correction with key **-** (blue) and confirmed with key **Y** (green).

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## 4.5 ADJUSTMENTS OF MIXING TIME

### Important

In principle the mixing should last as long as the main screw of the IMM is rotating (= dosing time IMM).

DOSING 120 ^  
MIXING TIME 03,5 +Y

For adjustments press Y (green).



CALCULATION OF DOSING ^  
+Y

**CALCULATION OF DOSING** will be indicated.



Press + (blue).

DOSING >  
+Y

**DOSING** will be indicated.



Press + (blue).

MIXING TIME 03.5 >  
+Y

**MIXING TIME** will be indicated



This value can be entered by pressing key + (blau) eventual correction with key - (blue) and confirmed with key Y (green).

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**Now the colouring unit is ready for operation!**

Use in combination with a THERMOLIFT

With the use of a Hydraucolor in combination with a THERMOLIFT we recommend an extra supply regulator as indicated in the THERMOLIFT 100-2 technical manual under Nr. 6.1.4.

**With regard to faults the control unit of the colouring attachment meets the requirements as recorded in European standards EN50081-2 and EN50082-2.**

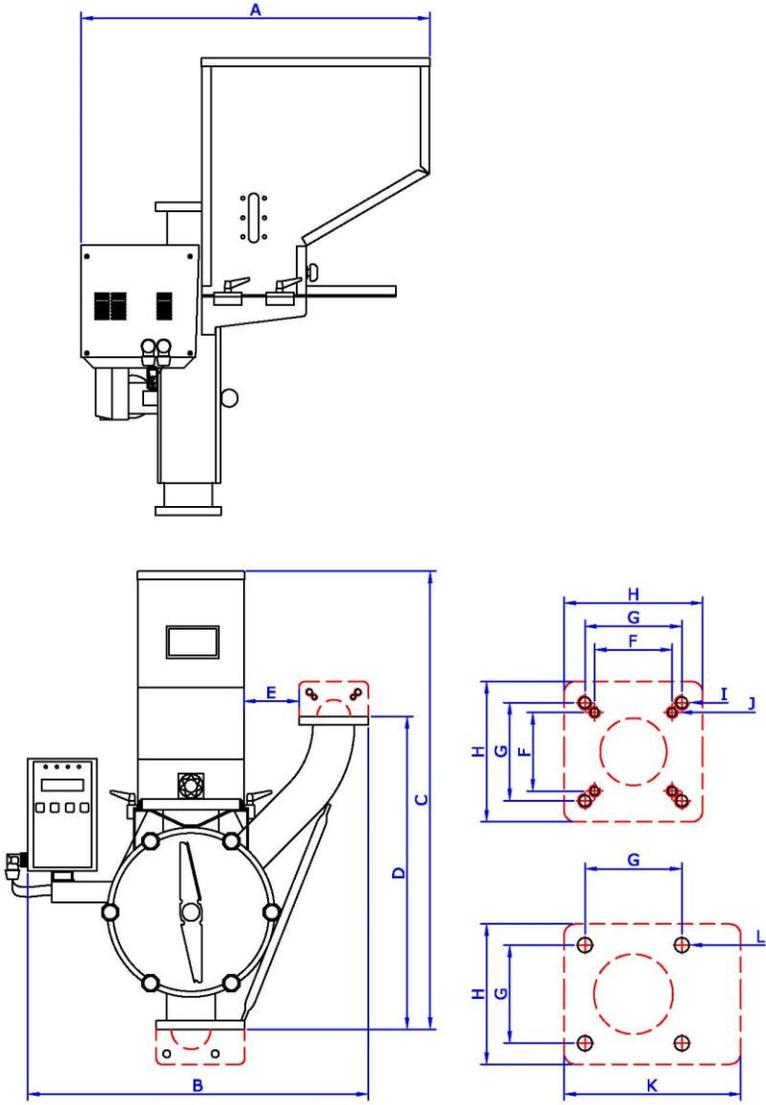
**With regard to static discharge the control unit meets the requirements as recorded in European standard EN50082-2**

**Information about technical data corresponds with the situation at the moment of printing.**

**In the interest of permanent further developments we make a reservation for modifications.**

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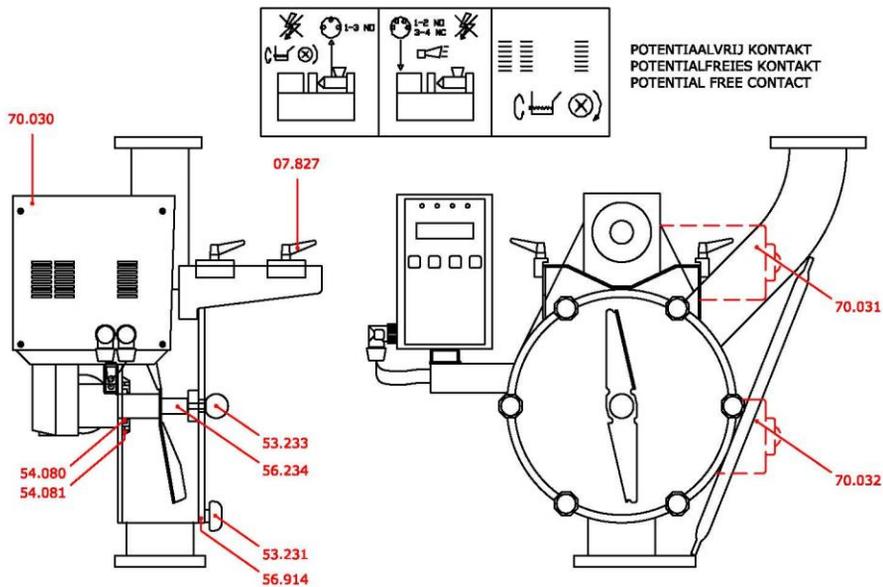
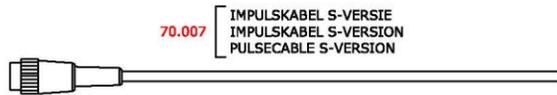
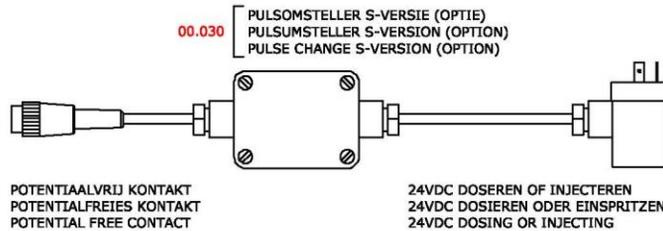
## 5.0 DRAWINGS



TYPE	A	B	C	D	E	F	G	H	I	J	K	L
500-S/950	510	485	655	442	80	56	70	100	M10	M8	125	10,2

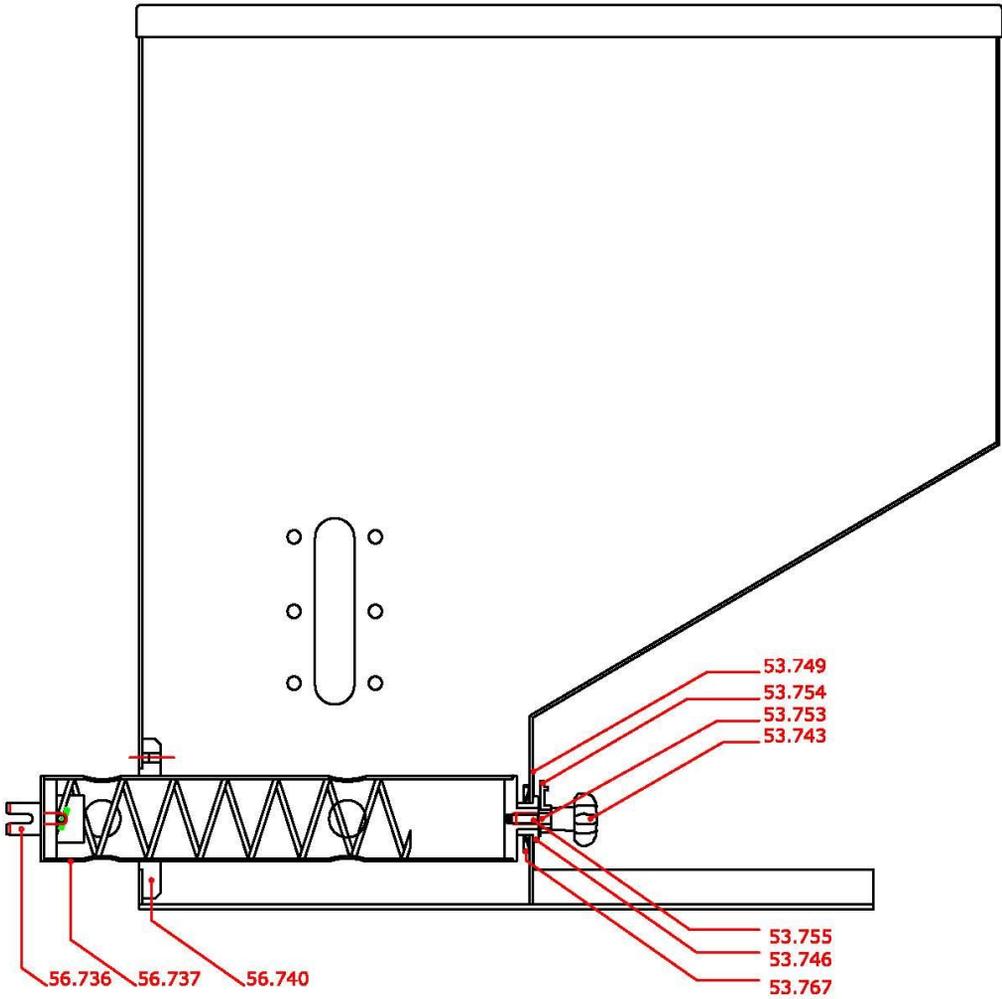
HYDRAUCOLOR 500-S/950

# Hydraucolor 500-S/950



HYDRAUCOLOR 500-S/950 } **56.091**

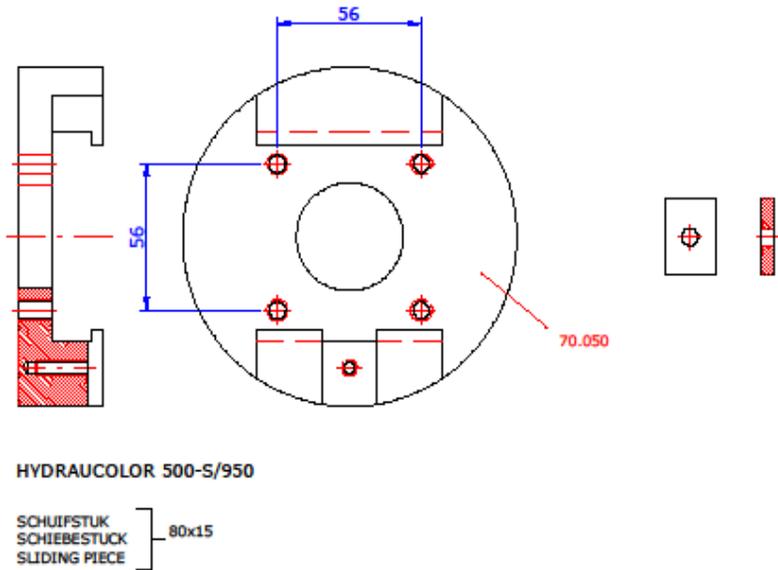
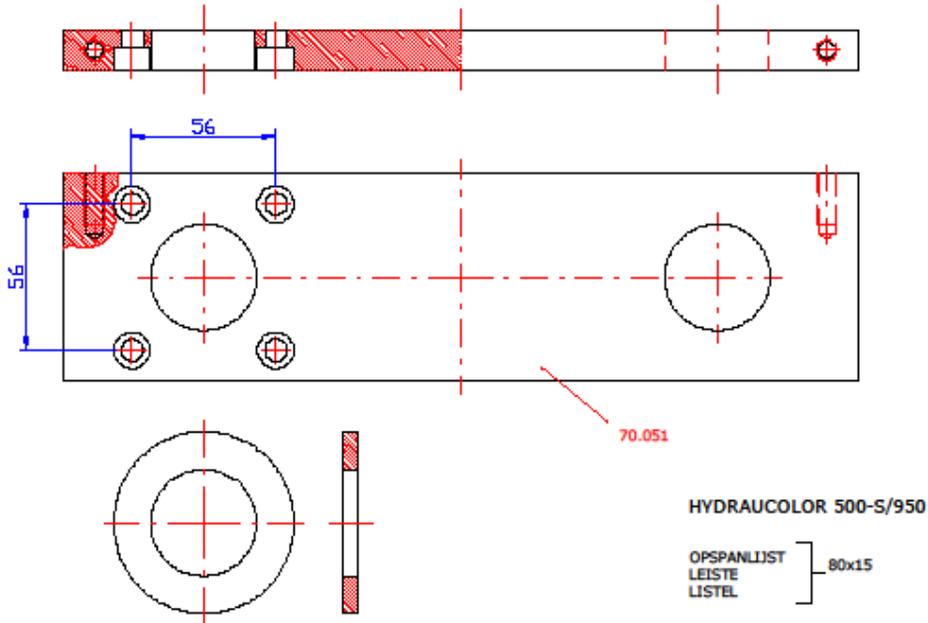
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HYDRAUCOLOR 500-S/950

DOSEER-MAGAZIJN VOOR MASTERBATCH  
DOSIEREINRICHTUNG FUER GRANULATFOERMIGES MATERIAL  
DOSAGE UNIT FOR GRANULATIE-TYPE MATERIAL } (56.089)

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# Hydraucolor 500-S/950

## 6.0 ADJUSTMENT HELP

✂

CALCULATION OF DOSING HELP	
10 ROTATIONS	= 0,1 Gram
PERCENT ADDITIVE	2%
SCHOTWEIGHT	5 Gram
RESULT	= 800 division marks (10 ROTATIONS)