Leader dans la réalisation de Détecteurs de survitesse mécaniques.

+0033.(0) 1 61 10 06 84
contact@servat-technologies.com
https://servat-technologies.com


# TECHNICAL DATA
# R7 HYC

+0033.(0) 1 61 10 06 84
contact@servat-technologies.com
https://servat-technologies.com

## APPLICATIONS

The centrifugal detector with reset type R7 HYC3 NO or NC, makes it possible to detect automatically dangerous speeds of rotating parts (overspeed, runaway).

It is a safety device, of great reliability, used on all parts where there is a risk of

sudden and accidental increase in speed in particular:

- overspeed all thermal engines, diesel, gasoline, gas, generators,

- overspeed railway traction engines,

- marine engine overspeed,

- industrial engine overspeed,

- overspeed turbines of all types,

- overspeed pumping units, compressors, boreholes, etc.

## PRINCIPLE OF OPERATION

This reset centrifugal detector uses a centrifugal mechanism which intervenes at critical speed predetermined with an accuracy of around +/- 2% at room temperature.

When this critical speed is reached, a previously armed system is suddenly released and actuates the hydraulic valve distributor (HYC).

+0033.(0) 1 61 10 06 84
contact@servat-technologies.com
https://servat-technologies.com

The 3-way valve (HYC3) can be delivered in two versions and works as follows equipped on theoverspeed detector:

- Normally Open "NO", that is to say fluid passing before overspeed and fluid no longer passing

after triggering,

- Normally Closed "NC", that is to say fluid not passing before overspeed and fluid passing after triggering.

The admissible pollution class is 9 (NAS 1638) or 1814 (ISO 4406).

Simultaneously, a microswitch placed in a side compartment of the device intervenes and doubles the safety by electrical information (AGE system).

The device must obviously be reset manually * to put the entire installation back into service

(the devices delivered are always in armed mode, ready to use).

* The device can be reset remotely using an electro-mechanical system (R7 HYC REM)

VARIOUS VERSIONS

1) Overspeed detector with reset type R7 HYC3 NO or NC AP (coupling Paulstra)

Device fitted with an elastic coupling in special Paulstra nitrile with a complete diameter of 45mm (1 half sleeve mounted on the detector, 1 elastic element in removable special nitrile, 1 raw sleeve for adaptation on the component to be checked with machining by you).

2) Overspeed detector with reset type R7 HYC3 NO or NC AL (Smooth shaft)

+0033.(0) 1 61 10 06 84
contact@servat-technologies.com
https://servat-technologies.com

3) All these types of devices are equipped with a side compartment with a microswitch reverser synchronized with the release of the hydraulic distributor. The designation of the device is completed by the symbol AGE.

4) All these types of device can receive either an external reset lever (LEX symbol) or a hexagonal reset tip (symbol EH)

5) All types of overspeed detector type R7 HYC3 NO or NC can be supplied with an electromechanical remote reset system: R7 HYC3 NO or NC REM (remote reset)

6) All R7 HYC3 NO or NC devices can be fitted with a VB multiplier plate.

## DESCRIPTION

The centrifugal system consists of an aluminum case, forming a casing, in which the assembly is housed in motion or rotor, mainly composed of a plate fitted with weight levers rotating at the training speed of the device.

The weights, of variable weight, are balanced by return springs according to the speed at control.

This assembly, by a system of slide and ball stops, controls the quick release.

The quick release mechanism, included in an aluminum cap, features a pre-cocked trigger which is abruptly released when the thrust of the centrifugal system becomes sufficient and corresponds to the predetermined intervention regime.

It is possible to intervene on the setting of the trigger point and this in significant proportions

(see OBSERVATION chapter)

The triggering system controls the hydraulic distributor described above, NO or NC, as well as the Electric microswitch in AGE version.

The device can operate in either direction of rotation.

+0033.(0) 1 61 10 06 84
contact@servat-technologies.com
https://servat-technologies.com

## MOUNTING

The device is fixed by centering (diameter 60f7 and depth 2) and by flange (6 holes diameter 6.5 on drilling diameter 114mm).

The drive is provided by means of a Paulstra elastic miniflex coupling of diameter 45 (AP version).

The device is tested and validated horizontally at the factory by default. It can be tested and validated vertically if the mounting on your machine is. In this case, it is imperative to let us know (variation of the threshold of trigger).

The device can occupy any position around its axis.

## USE

The device is factory set to the requested operating regime. However, this can be modified, in addition or in less, after mounting on the component to be checked and this by means of an adjustment screw.

As long as the critical speed is not reached, the device remains as it is. When the critical speed is reached sudden tripping occurs and activates the safety device (distributor + microswitch). It is therefore necessary, when restarting the control unit, to reset the detector centrifugal through the external lever or the hexagonal reset end or the system REM (electromechanical remote reset)

## INTERVIEW

+0033.(0) 1 61 10 06 84
contact@servat-technologies.com
https://servat-technologies.com

The centrifugal detector type R7 HC3 NO or NC is intended for intensive use. For this reason it includes a splash lubrication system. Therefore, unlike other types of control of our production, it is necessary to carry out a level monitoring at regular intervals and an oil change.

The devices are always delivered ready for operation, that is to say full of oil. The oil used is a synthetic oil 5W40.

NOTE: If the appliance is in a horizontal position, the filling requires approximately 15cl. If the device is in position vertical, let us know to predict the oil level according, i.e. around 25cl.

Proceed as follows to check the full or to complete it:

With the device in a horizontal position, remove the small cover located at the rear of the device. Check the level through the circular hole in the center of the housing. The oil should be flush with the bottom of the hole.

To drain the appliance: remove one of the 4 slotted cylindrical head screws (be careful not to lose the waterproof washer) located at the lowest level according to the position of the device in space.

Be careful not to use flushing fluid.

To refill: after emptying, refill using a syringe or a system similar.

Frequency: The oil check operation can be carried out at relatively long intervals

(approximately every 5,000 hours).

+0033.(0) 1 61 10 06 84
contact@servat-technologies.com
https://servat-technologies.com

The devices are always delivered ready to operate, that is to say adjustment on our test bench carried out at triggering rate requested by the customer. If a correction is necessary after the device mounted on the client installation, proceed as follows:

Remove the small cover located at the rear of the device. Unlock the castellated locknut. Work on the screw hexagonal head adjustment (tube wrench 12 on flats).

By screwing (clockwise) to raise the tripping speed and by unscrewing (counterclockwise) to lower the tripping regime.

Reblock the locknut and refit the small cover and its seal.

The adjustment operation must be carried out on a test bench at variable speed, using a tachometer or similar calibrated measuring device. We can provide a test bench for all our types of overspeed detectors.

It is advisable to operate the safety devices from time to time by activating the safety system.

Triggering of the device via the external lever or the hexagonal tip.

Our elastomeric seals are given for a lifespan of 5 years, so it is advisable to change all gaskets of the detector at the end of this service life.

IMPORTANT: The indications that we give concerning both the verification of the full and the monitoring of the tripping regime, are only approximate averages which should be corrected by the installer or the user depending on the nature and intensity of the overall service.

It is indeed difficult to set a precise framework for operations which must necessarily be harmonized with other maintenance information for the entire installation.

+0033.(0) 1 61 10 06 84
contact@servat-technologies.com
https://servat-technologies.com

The device has an engraving on the AGE case allowing its identification. On this plate are the device type and serial number. In addition, this number is stamped on the housing and trigger housing as well as the triggering regime.

All correspondence, inquiries or orders for spare parts must be include the references and regime cited above.

SYMBOLS USED:

R7 - Centrifugal detector with reset comprising a splash lubrication system

HY - Hydraulic distributor allowing the use of a fluid circuit as a means of action on the overspeed observed

C3 - 3-way valve

NO - Normally Open hydraulic valve (device armed configuration)

NC - Normally Closed Hydraulic valve (device armed configuration)

AGE - System supplementing the hydraulic action with a synchronized electrical indication

LEX - External reset lever, lever accessible without tools from outside the device, used to reset or secure the controlled system.

EH - Hexagonal reset tip. To operate this system, it is necessary to operate a small plexiglass access glass and rearm the device using an 8 flat socket wrench

AP - Flexible coupling (complete supply)

AL - Smooth shaft

PE9 - PG9 cable gland (mounted on AGE box)

JAEGER - Jaeger complete electrical connector (mounted on AGE box)

+0033.(0) 1 61 10 06 84
contact@servat-technologies.com
https://servat-technologies.com

VARIANTS:

For low tripping speeds, a multiplier board VB or 2VB is mounted on the overspeed.

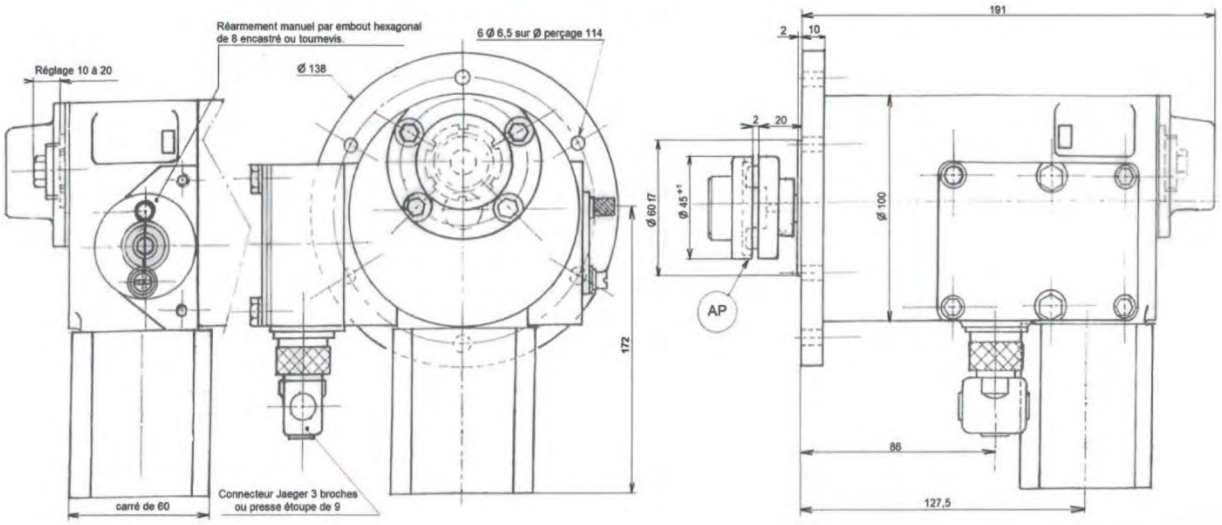
Possibility of other couplings such as: Bowex M14 or M19

Explosion-proof device (ADF): the microswitch can be explosion-proof on request

Possibility of having 2 electrical contacts (2C) in the AGE box

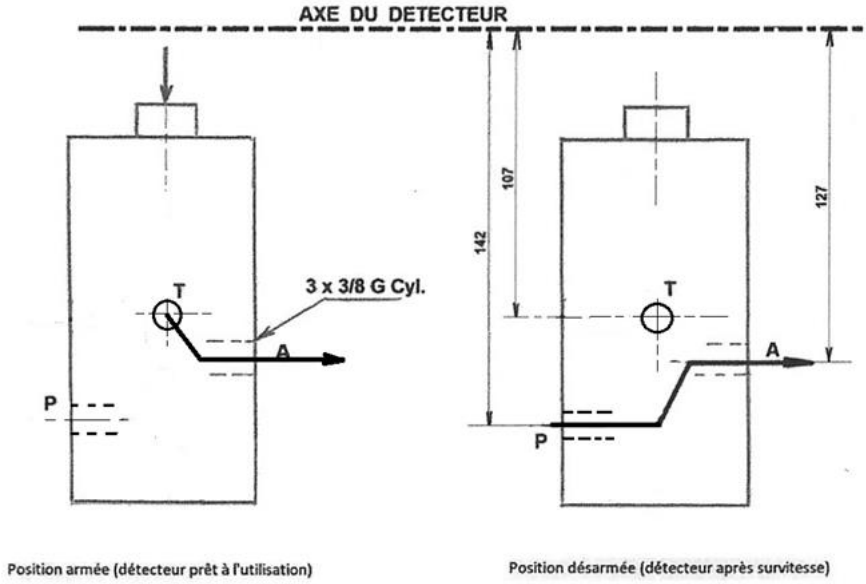
+0033.(0) 1 61 10 06 84
contact@servat-technologies.com
https://servat-technologies.com

## R7 HY C3



SERVAT TECHNOLOGIES
Leader dans la réalisation de détecteurs de survitesse mécaniques et indicateurs de colmatage de filtre.
+0033.(0) 1 61 10 06 84
contact@servat-technologies.com
https://servat-technologies.com

## DISTRIBUTEUR 3 V. NF



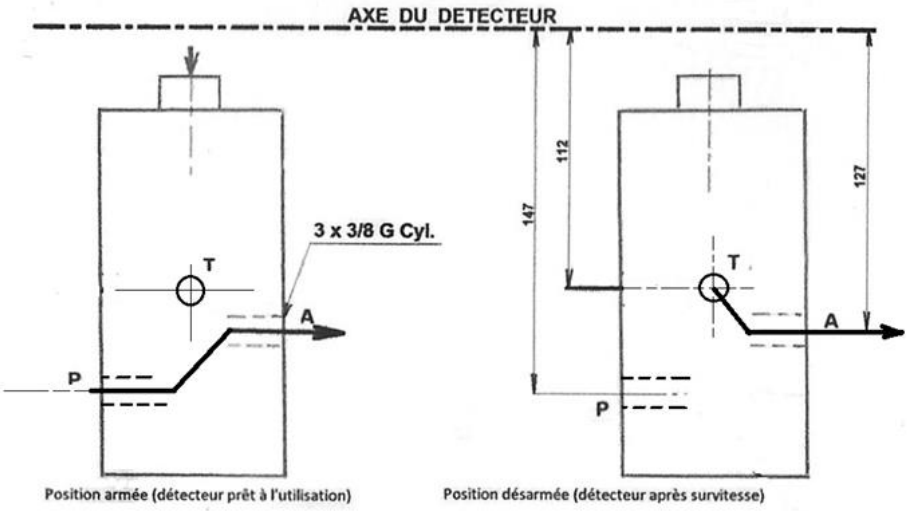

Position armée (détecteur prêt à l'utilisation)

Position désarmée (détecteur après survitesse)

NOTA : Nous attirons votre attention sur le fait qu'une fois le bloc hydraulique HYC3 NF monté sur notre détecteur de survitesse, celui-ci fonctionnera à l'inverse du schéma hydraulique indiqué sur la plaque signalétique du bloc HYC3 NF. En effet, quand le détecteur est en position armé (pas de survitesse détectée), le fluide est passant entre T et A et quand le détecteur est en position désarmé (survitesse détectée), le fluide est passant entre P et A (voir schéma ci-dessus).

+0033.(0) 1 61 10 06 84
contact@servat-technologies.com
https://servat-technologies.com

## DISTRIBUTEUR 3 V. NO




NOTA : Nous attirons votre attention sur le fait qu'une fois le bloc hydraulique HYC3 NO monté sur notre détecteur de survitesse, celui-ci fonctionnera à l'inverse du schéma hydraulique indiqué sur la plaque signalétique du bloc HYC3 NO. En effet, quand le détecteur est en position armé (pas de survitesse détectée), le fluide est passant entre P et A et quand le détecteur est en position désarmé (survitesse détectée), le fluide est passant entre T et A (voir schéma ci-dessus).