

# ***Setting the hose compression for Pumps A25 to AS125 Not pre-set in the factory***



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Your distributor :

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## 1. PREAMBLE

The hose compression setting for pumps A25 to AS125 basically depends on the discharge pressure and the pump rotation speed.

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## 2. SETTING THE HOSE COMPRESSION

The pumps are set in the factory for a discharge pressure less than or equal to 5 bar (72,5 PSI) using fixed shims. Removable 0,5 mm (0,1968 in) shims are used for increasing the pump service pressure from 5 bar (72,5 PSI) to 7,5, 10 or 15 bar (108,75, 145 or 217,5 PSI). Thus, pumps which were not assembled in the factory and which, therefore, could not be pre-set in the factory, have to be set in the following manner :

- pre-set the pump compression for a differential pressure of 5 bar (72,5 PSI) using fixed shims, 0,2 and 0,3 mm (0,0787 and 0,1181 in) thick, whatever the required pump discharge pressure.
- readjust the hose compression setting to obtain the setting suited to the required differential pressure using removable shims.

The advantage of this type of setting is that it enables users to easily adapt the compression of their pump hoses according to the necessary differential pressure without losing the 5 bar (72,5 PSI) pre-setting carried out using fixed shims. It is important to note that this pre-setting is valid for a range of rotation speeds (see the settings' tables below).

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## 3. REMOVABLE AND FIXED SHIMS

Removable shims are shaped like this :

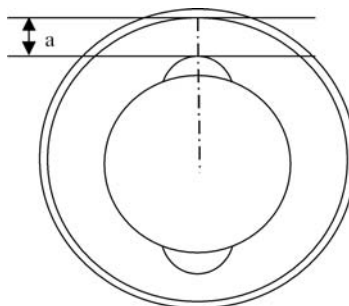


Fixed shims are shaped like this :



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## 4. DEFINITION OF THE DISTANCE "A" BETWEEN THE TOP OF THE SHOE AND THE INTERNAL DIAMETER OF THE PUMP BODY



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## 5. HOW TO USE THE SETTINGS' TABLES

The settings' tables below should be used for :

- Checking that the pump speed (?) is authorized for the required differential pressure ( $\Delta P$ ).
- Pre-setting the pump rotation speed taken into account at 5 bar (72,5 PSI) using 0,2 and 0,3 mm (0,0787 and 0,1181 in) shims. The lowest speed shall be taken into account in the event of varying speeds so as to avoid any lack of hose compression which could lead to rapid deterioration of the hose.
- Adapting the hose compression setting to the required differential pressure :
  - Transfer from  $\Delta P \leq 5$  bar (72,5 PSI) to  $5 (72,5) < \Delta P \leq 7,5$  bar (108,75 PSI), add one removable shim
  - Transfer from  $\Delta P \leq 5$  bar (72,5 PSI) to  $7,5 (108,75) < \Delta P \leq 10$  bar, add 2 removable shims
  - Transfer from  $\Delta P \leq 5$  bar (72,5 PSI) to  $10 (145) < \Delta P \leq 15$  bar, add 3 removable shims

One shim should be removed from the above settings if the temperature of the pumped product is greater than 60°C (140°F) it is necessary to remove one shim (when possible) in relation to the setting above (only removable shims should be removed).

Too little hose compression leads to internal leaks which lead to rapid deterioration of the inside of the hose.

Too much hose compression puts significant internal strain on the pump as well as leading to abnormal overheating of the hose which greatly reduces its operational life.

### NOTE

There must be the same number of shims under each shoe.

## 6. SETTINGS' TABLES

### A25

bar (psi)	tr/rpm	mm (inch)
$\Delta P \leq 5$ (72.5)	$5 \leq N \leq 40$	$25.6$ (1.008") $< a \leq 26.1$ (1.028")
	$40 < N \leq 120$	$26.1$ (1.028") $< a \leq 26.6$ (1.047")
	$120 < N \leq 160$	$26.6$ (1.047") $< a \leq 27.1$ (1.067")

Permissible speed ranges for higher pressures :

bar (psi)	tr/mn - rpm
$5$ (72.5) $< \Delta P \leq 7.5$ (108.75)	$5 \leq N \leq 40$
	$40 < N \leq 120$
	$120 < N \leq 135$
$7.5$ (108.75) $< \Delta P \leq 10$ (145)	$5 \leq N \leq 40$
	$40 < N \leq 115$
$10$ (145) $< \Delta P \leq 15$ (217.5)	$5 \leq N \leq 40$
	$40 < N \leq 90$

### A40

bar (psi)	tr/rpm	mm (inch)
$\Delta P \leq 5$ (72.5)	$5 \leq N \leq 45$	$22.9$ (0.902") $< a \leq 23.4$ (0.921")
	$45 < N \leq 115$	$23.4$ (0.921") $< a \leq 23.9$ (0.941")
	$115 < N \leq 140$	$23.9$ (0.941") $< a \leq 24.4$ (0.961")

Permissible speed ranges for higher pressures :

bar (psi)	tr/mn - rpm
$5$ (72.5) $< \Delta P \leq 7.5$ (108.75)	$5 \leq N \leq 45$
	$45 < N \leq 115$
$7.5$ (108.75) $< \Delta P \leq 10$ (145)	$5 \leq N \leq 45$
	$45 < N \leq 100$
$10$ (145) $< \Delta P \leq 15$ (217.5)	$5 \leq N \leq 45$
	$45 < N \leq 75$

## 6. SETTINGS' TABLES (continued)

### AX40

bar (psi)	tr/rpm	mm (inch)
$\Delta P \leq 5$ (72.5)	$5 \leq N \leq 55$	$24.5$ (0.965") $< a \leq 25$ (0.984")
	$55 < N \leq 100$	$25$ (0.984") $< a \leq 25.5$ (1.004")
	$100 < N \leq 120$	$25.5$ (1.004") $< a \leq 26$ (1.024")

Permissible speed ranges for higher pressures :

bar (psi)	tr/mn - rpm
$5$ (72.5) $< \Delta P \leq 7.5$ (108.75)	$5 \leq N \leq 55$
	$55 < N \leq 100$
$7.5$ (108.75) $< \Delta P \leq 10$ (145)	$5 \leq N \leq 55$
	$55 < N \leq 85$
$10$ (145) $< \Delta P \leq 15$ (217.5)	$5 \leq N \leq 55$
	$55 < N \leq 65$

### A65

bar (psi)	tr/rpm	mm (inch)
$\Delta P \leq 5$ (72.5)	$5 \leq N \leq 30$	$24.3$ (0.957") $< a \leq 24.8$ (0.976")
	$30 < N \leq 65$	$24.8$ (0.976") $< a \leq 25.3$ (0.996")
	$65 < N \leq 90$	$25.3$ (0.996") $< a \leq 25.8$ (1.016")

Permissible speed ranges for higher pressures :

bar (psi)	tr/mn - rpm
$5$ (72.5) $< \Delta P \leq 7.5$ (108.75)	$5 \leq N \leq 30$
	$30 < N \leq 65$
	$65 < N \leq 75$
$7.5$ (108.75) $< \Delta P \leq 10$ (145)	$5 \leq N \leq 30$
	$30 < N \leq 65$
$10$ (145) $< \Delta P \leq 15$ (217.5)	$5 \leq N \leq 30$
	$30 < N \leq 50$

## 6. SETTINGS' TABLES (continued)

### AX80

bar (psi)	tr/rpm	mm (inch)
$\Delta P \leq 5$ (72.5)	$5 \leq N \leq 25$	$30.9$ (1.217") $< a \leq 31.4$ (1.236")
	$25 < N \leq 45$	$31.4$ (1.236") $< a \leq 31.9$ (1.256")
	$45 < N \leq 65$	$31.9$ (1.256") $< a \leq 32.4$ (1.276")

Permissible speed ranges for higher pressures :

bar (psi)	tr/mn - rpm
$5$ (72.5) $< \Delta P \leq 7.5$ (108.75)	$5 \leq N \leq 25$
	$25 < N \leq 45$
	$45 < N \leq 50$
$7.5$ (108.75) $< \Delta P \leq 10$ (145)	$5 \leq N \leq 25$
	$25 < N \leq 45$
$10$ (145) $< \Delta P \leq 15$ (217.5)	$5 \leq N \leq 25$
	$25 < N \leq 35$

### A80

bar (psi)	tr/rpm	mm (inch)
$\Delta P \leq 5$ (72.5)	$5 \leq N \leq 15$	$38.5$ (1.516") $< a \leq 39$ (1.535")
	$15 < N \leq 30$	$39$ (1.535") $< a \leq 39.5$ (1.555")
	$30 < N \leq 45$	$39.5$ (1.555") $< a \leq 40$ (1.575")
	$45 < N \leq 60$	$40$ (1.575") $< a \leq 40.5$ (1.594")

Permissible speed ranges for higher pressures :

bar (psi)	tr/mn - rpm
$5$ (72.5) $< \Delta P \leq 7.5$ (108.75)	$5 \leq N \leq 15$
	$15 < N \leq 30$
	$30 < N \leq 45$
	$45 < N \leq 50$
$7.5$ (108.75) $< \Delta P \leq 10$ (145)	$5 \leq N \leq 15$
	$15 < N \leq 30$
	$30 < N \leq 40$
$10$ (145) $< \Delta P \leq 15$ (217.5)	$5 \leq N \leq 15$
	$15 < N \leq 30$

## 6. SETTINGS' TABLES (continued)

### A100

bar (psi)	tr/rpm	mm (inch)
$\Delta P \leq 5$ (72.5)	$5 \leq N \leq 15$	$40.2$ (1.583") $< a \leq 40.7$ (1.602")
	$15 < N \leq 25$	$40.7$ (1.602") $< a \leq 41.2$ (1.622")
	$25 < N \leq 35$	$41.2$ (1.622") $< a \leq 41.7$ (1.642")
	$35 < N \leq 45$	$41.7$ (1.642") $< a \leq 42.2$ (1.661")

Permissible speed ranges for higher pressures :

bar (psi)	tr/mn - rpm
$5$ (72.5) $< \Delta P \leq 7.5$ (108.75)	$5 \leq N \leq 10$
	$10 < N \leq 20$
	$20 < N \leq 25$
$7.5$ (108.75) $< \Delta P \leq 10$ (145)	$5 \leq N \leq 10$
	$10 < N \leq 20$
	$20 < N \leq 25$
$10$ (145) $< \Delta P \leq 15$ (217.5)	$5 \leq N \leq 10$
	$10 < N \leq 15$

### AS125

bar (psi)	tr/rpm	mm (inch)
$\Delta P \leq 5$ (72.5)	$5 \leq N \leq 10$	$39.4$ (1.551") $< a \leq 39.9$ (1.571")
	$10 < N \leq 20$	$39.9$ (1.571") $< a \leq 40.4$ (1.591")
	$20 < N \leq 30$	$40.4$ (1.591") $< a \leq 40.9$ (1.61")
	$30 < N \leq 35$	$40.9$ (1.61") $< a \leq 41.4$ (1.63")

Permissible speed ranges for higher pressures :

bar (psi)	tr/mn - rpm
$5$ (72.5) $< \Delta P \leq 7.5$ (108.75)	$5 \leq N \leq 15$
	$15 < N \leq 25$
	$25 < N \leq 35$
$7.5$ (108.75) $< \Delta P \leq 10$ (145)	$5 \leq N \leq 10$
	$10 < N \leq 20$
	$20 < N \leq 25$
$10$ (145) $< \Delta P \leq 15$ (217.5)	$5 \leq N \leq 10$
	$10 < N \leq 15$