

CMS RPC

High Flow Rack 74

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EP-DT
Detector Technologies

Rack 74 flow test

- Regulation valve = ECONEX Seat 45 mm² (speed 7.5 for 0-100%)
working point 55%
- Maximum flow reached in std conditions = 581 l/h
(rotameter max open, valve at 95%)
- Test of new seat to work in higher flow range
+ Changed pre-distribution rotameter glass (was 1200 l/h, now 2500 l/h in Air)
- ** if going to higher flows, most barrel racks will need new glass
with higher flow scale >> new glass = stop of rack
- Installation of new seat for ECONEX 88 mm² (trapezoidal shape)
working point 42 %

Rack 74 flow test

- *1st test*, when increasing flow with rotameter drop of flow in all other racks
>> probably taking too much gas in R74 at once
Zimmerli cannot provide requested flow as pressure decreased
- *2nd test*, flow increased in smaller steps (other racks ok)
rotameter at maximum opening
>> maximum flow reached 590 l/h with valve at 56%
- *3rd test*, increased exhaust pressure set to 650 mbar (was 600 mbar)
>> during test, pump regulation went lower than 10%, alarm, test stopped
- *4th test*, decreased group regulation pressure to -1.9 mbar (was 0.9 mbar)
rotameter at maximum opening
>> maximum flow reached 610 l/h with valve at 53%

Rack 74 flow test : status

- Max flow reached 610 l/h (exhaust 600 mbar, group -1.9 mbar, 1 pump)

Possible test:

- System with 2 pumps to increase working point of regulation valve
Allow increase of flow without system going in alarm