

# SPS<sup>®</sup> ASTRON QX

Gefördert durch:



Bundesministerium  
für Wirtschaft  
und Klimaschutz



**A NEW GENERATION OF FULL SERVO DRIVE  
CAMERA IMAGE REGISTRATION  
CYLINDER MACHINE**

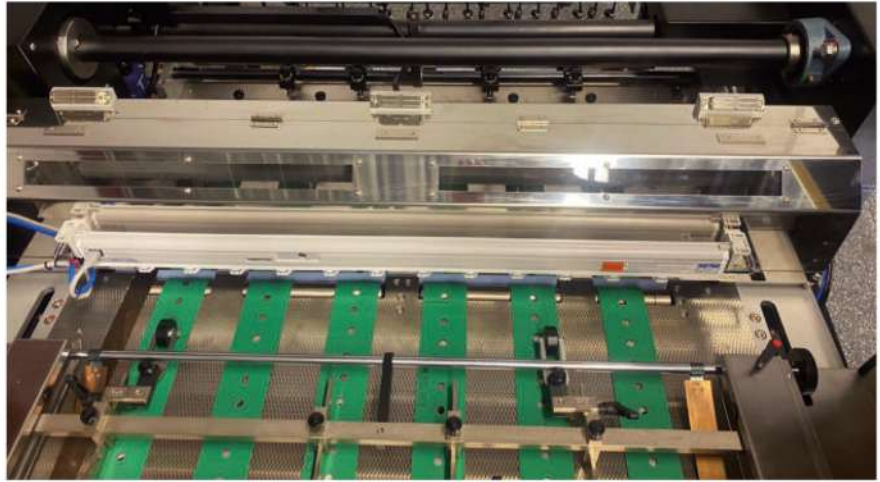
The development of the SPS ASTRON QX range of servo cylinder machines is the result of years of close cooperation between SPS TechnoScreen and ATMA. The result is the best of two worlds, the vast experience of SPS combined with the superior design and production capability of ATMA Champ Ent. Corp.

## SHEET FEEDER

The ASTRON QX is combined with the proven single sheet front pick-up feeder FP57. This feeder is extremely easy to set-up and can separate even the most sticky sheets. Also the FP57 is fully servo driven.



Single sheet, front pick-up feeder for scratch-free separation from the pile.



(Optional) both top and bottom sheet cleaning system, blue pick-up roller transferring dust particles to the adhesion roller; (optional) anti-statics.



Ultra sonic double sheet detection; perfect also for very thin materials; no-set-up required.



Individual spring-loaded suction elements for optimized sheet separation.

## CYLINDER AND SCREEN SERVO DRIVE

In order to achieve maximum flexibility and durability the ASTRON QX57 is equipped with individual servo drive for the cylinder and electro-magnetic linear motors for the screen carrier.



Servo-motor main drive direct connected to the cylinder.



Linear electro-magnetic drive for the screen carrier L.



Linear electro-magnetic drive for the screen carrier R.

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## ERGONOMICS



The 4-post lift system for the complete screen and squeegee assembly enables the operator to have an unrestricted view to the material stream and if necessary make some corrections; the registration will remain 100%.

The screen can be inspected either at the sheet exit side of the machine or sliding it out to the operator side.



The sheet feeder is open and easy accessible for the operator to load and / or correct the sheet pile.



Inspection and / or cleaning top and bottom side of the screen; holding perfect registration when pushed back into the machine.



Extra operator panel with hard buttons for the most used machine commands, located at the sheet exit side.

## SCREEN CARRIER

The independently driven screen carrier is of heavy duty solid anodized aluminum, screens are loaded by sliding them in from the operator side of the press; the retractable screen holder runs on precise linear bearings and can be pulled outside the machine for correction / cleaning purposes; after pushing this back, the original register is maintained.



Heavy duty solid anodized aluminum, optimum stability, perfect registration.



Simply slide the screen into the machine from the operator side.

## INITIAL JOB SET UP

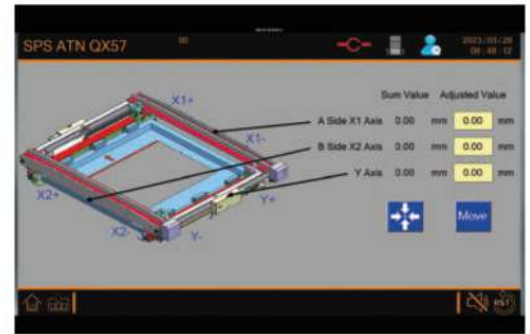
The ASTRON QX offers the fastest job change in the industry; the camera controlled auto-screen register system will recognize the extra fiducials exposed in the screen and set the new screen into registration in less than 1 minute; the fully automatic squeegee program sets pressure, active print path, flood coater depth in less than 1 minute; the (optional) serismart F will set all sheet size related settings fully automatic and in less than 1 minute.



Blue LED light from top, camera from beneath checking the fiducial exposed in the screen.



For initial screen register set-up, the camera is targeting the fiducial in the screen.



Motorized automatic initial screen register set-up & motorized correction of image position; in order to be 100% precise and avoid any backlash, the ASTRON QX uses 4 servo motors; the image rotates around the center.



Serismart F, after numeric input of sheet size ALL format related settings will automatically find the correct positions (optional)



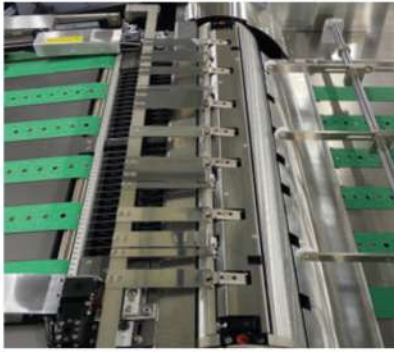
Even the sheet edge rollers will search for the correct position.



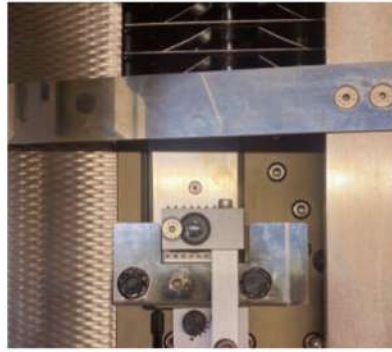
Recipe set-up of all print parameters; standard memory for storage of up to 500 recipes

## TRADITIONAL SHEET-EDGE REGISTRATION

Like the traditional range of SPS cylinder machines, the ASTRON QX can register the sheets against front- and side-lay stops. 4 front-lay stops are integrated in the cylinder; the 2 center stops are slightly offset and used for the small sheet sizes; the 2 outer stops are used for the larger sheet sizes.



Sheet smoothers to avoid any “curling” of sheet edges; fibre optic register sensors, unique “no-print” function; vacuum infeed belts help for scratch free transport.



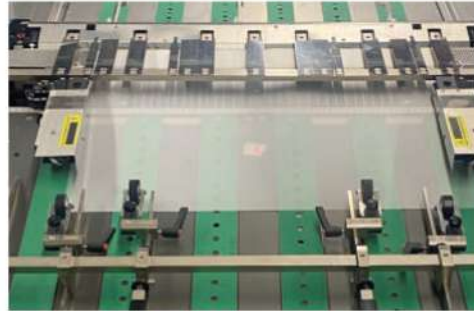
SPS vacuum side lay, no risk of scratch to the sheet surface; perfect “pull strength” adjustment incl. fibre-optic register control.

## CAMERA IMAGE REGISTRATION

In addition to the traditional “sheet-edge” register system by means of front- and side-lay stops, the ASTRON QX is also equipped with camera “image” registration. The camera image registration can prove to be beneficial in case of combination of screen and digital print, soft sheet edge making lay stop register less accurate, lamination and or glue sheet edge, lack of skilled operators, etc. How does it work?



The ASTRON QX is equipped with 2 CCD cameras fixed to the machine side-lay stops.



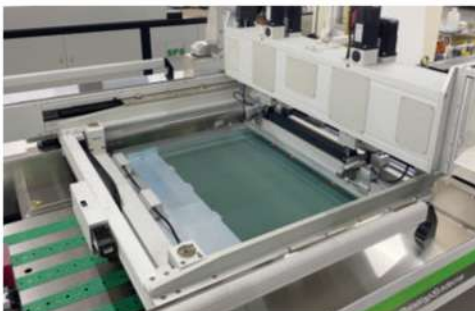
For each individual sheet, the camera detects the printed fiducial and before printing the screen is adjusted to the image position.



The full sequence: sheet runs against front-lay stops, side-lay pulls sheet over, gripper closes, camera reads position of fiducial, screen is adjusted, print starts.

## SQUEEGEE SYSTEM

The ASTRON QX series has a full new designed, extremely heavy-duty squeegee assembly, using servo motors and ball screws to execute the up / down movement for both squeegee and flood coater. In addition the pressure for the squeegee is applied by hydraulic cylinders. Pressure is set from the HMI in n/m<sup>2</sup> per cm squeegee length.



All new squeegee assembly, servo motors for squeegee and flood coater action. Motorized bridge position towards the feeder or sheet exit side.



Individual HMI for all squeegee and flood coater related machine settings.

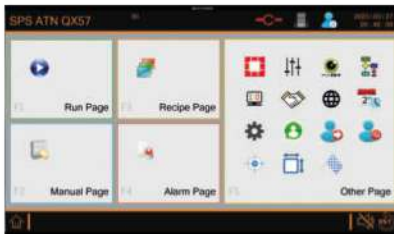


In addition to the standard squeegee, the ASTRON is equipped with the **SPS C05** pneumatic holder (RKS).

# SPS® ASTRON QX

## HUMAN MACHINE INTERFACE

With the design of the ASTRON QX series special attention was given to "industry 4.0" conformity. All machine parameters and logs can be linked to the back office. This will give management full access to production data, hence optimized production processes.



Large size Human Machine Interface International easy to understand icons.



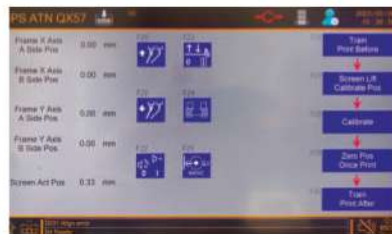
Standard visual status screen giving info on sheet counter, running speed, active side-lay, anti-statics, machine stop position.



The main menu page will give access to specific machine functions like initial camera teaching, fault finding, motorized screen adjustment.



Free manipulation of the image length throughout the full print.



Operator guidance in sequence steps for register set-up.



Recipe setting or loading from office or memory storage.

TECHNICAL DATA	ASTRON QX 57	ASTRON QX 71
Maximum sheet size, mm	550 x 800	750 x 1.050
Minimum sheet size, mm	280 x 320	280 x 420
Minimum sheet size // camera, mm	300 x 320	350 x 420
Maximum print size // camera, mm	530 x 790 / 770	720 x 1.040 / 1.020
Print frame od, mm	880 x 880 // 960 x 960	1.140 x 1.280
Sheet thickness, range mm	0,06 // 0,8	0,07 // 0,9
Cycle speed, iph	2.000	1.800
Cycle speed // camera, iph	1.200	1.100
Dimensions mm:		
Length	3.640	4.460
Width* (+ 1.000 for platforms)	1.920	2.200
Height + lift	2.000 + 400	2.000 + 400
Weight, kg	3.800	4.900
Electrical connection	400 v, 3 phase, 10 kw	400 v, 3 phase, 12 kw
Compressed air	6 bar, 200 l/min	6 bar, 200 l/min

\* + 1.100 Mm platforms

\*\* QX71 available from spring 2024



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