FA-X *Series*

Folding robot

Kannegiesser®

PARTNER IN LAUNDRY TECHNOLOGY

Folding robot of the FA-X series

Folding robots can generate substantial rationalisation improvements – the per capita performance can be multiplied and a classical bottleneck in the workflow can be eliminated. The FA-X folding robots represent further improvements to the successful FA-4 machines from Kannegiesser, who have been in the market since their pioneering work with the first generation – the Robofold and FA-3.

The FA-X machines can be used for almost the entire range of garments, for which folding robots can be considered as standard technology in modern laundry operations. In many cases they have initiated a revival of the trend towards the delivery of folded garments due to logistical advantages involved.

Machine availability and simple maintenance are crucial criteria to the consistent operation of folding robots in a similar way to moisture extraction presses or folding machines.

Kannegiesser supplies the folding robots in two models:
FA-X 700 (max. 700 items/h)
FA-X 900 (max. 900 items/h)

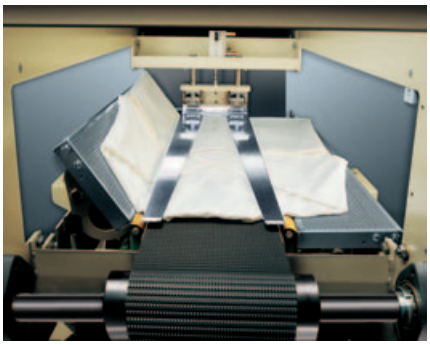
FA-X 900

FA-X 700

Folding robot of the FA-X series

Why high folding precision?

The two cross folding stations operate according to the highly reliable and precise reverse belt folding principle. The belt reversal point dictates the overlap, in other words, the cross folding determines the folding length which can be pre-selected in the program.

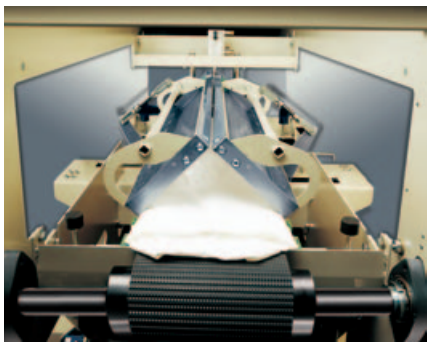


The special arrangement of the shaft in relation to the transport belt guarantees a positive adaptation to differing garment article thicknesses, i.e. from a thin patient gown to a heat resistant suit.

In the longitudinal folding station, two folding wings, one on the right-hand and one on the left-hand side, swing around a template, resulting in neatly folded edges in a precisely defined folding width.

The folding wings move in concentric bearings which allow them to adapt to varying thickness of material.

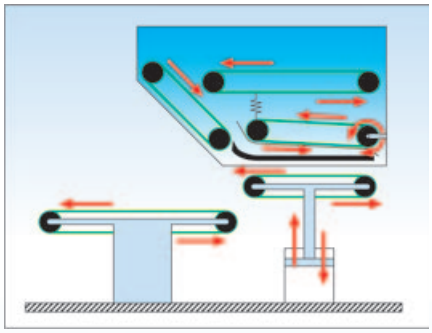
One or both folding wings can dwell in a centre position during the reverse swing, where it can act as a guide channel preventing any unfolding tendency of certain fabrics, until the final fixing has been performed following the last cross fold.

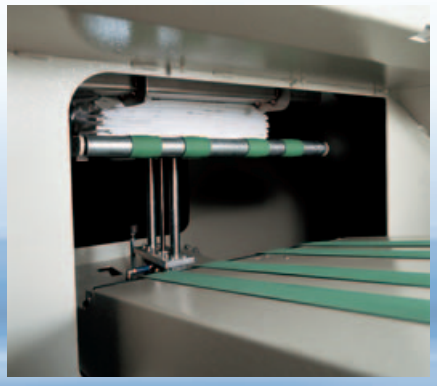


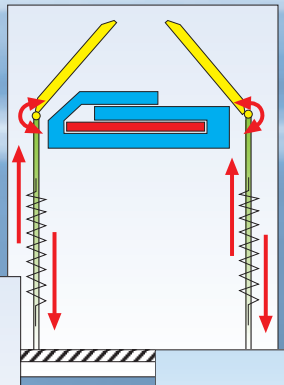
The article to be stacked is carefully deposited on a lifting table which automatically descends by one item thickness each and presses the stacked article against a plate. According to this method the folding pattern is stabilised.

The item to be folded is stabilised thanks to the programmed pre-fold performed in the first station.

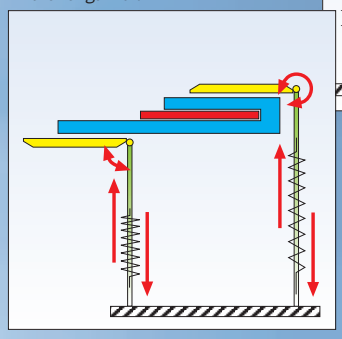
The articles are positively guided from top to bottom during the entire throughfeed. The article never runs unguided.

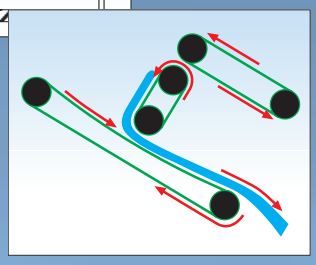






Thickness adjustment in the length fold





Reverse belt folding principle

Why high folding precision?

The articles are permanently and positively guided. Full length and wide transport belts actively prevent the jamming of cords/bands, zips, collars, belts or similar parts of the garment.

The very robust system hangers, made from as few components as possible, are also positively guided at the transfer points. At a simple spreading station the arms of the hanger are pushed outwards to arrive at the feeding station (Rapid loader) ready for correct operation.

The different garment categories are automatically detected in the infeed area, whereupon the programme parameters are assigned to the folding stations.

The sensor technology together with the machine control systems follows each garment through the machine in order to achieve a precise control. Should the pre-defined time limits for each station be exceeded, a clear fault message is shown.

The ongoing, automatic overlap correction is one of the special features of the powerful software. Following each cross folding cycle, the software performs another control measurement to ensure an instantaneous correction in the event of possible deviations with the next processed item. The machine automatically adjusts for varying tricknesses of garmets.

Flat drive belt mechanism guaranty a smooth and simple operation of all folding sections using the latest state of the art technology therefore archiving high reliability with low maintence requirements.

Control Panel, the machine control knows at any point in time where the articles and hangers are located within the machine. In the unlikely event of a machine fault, an error text message uppears on the display.

A connection to a management information system or a tele-service are possible as an option.

Hanger spreading station

Why a consistent high performance ?

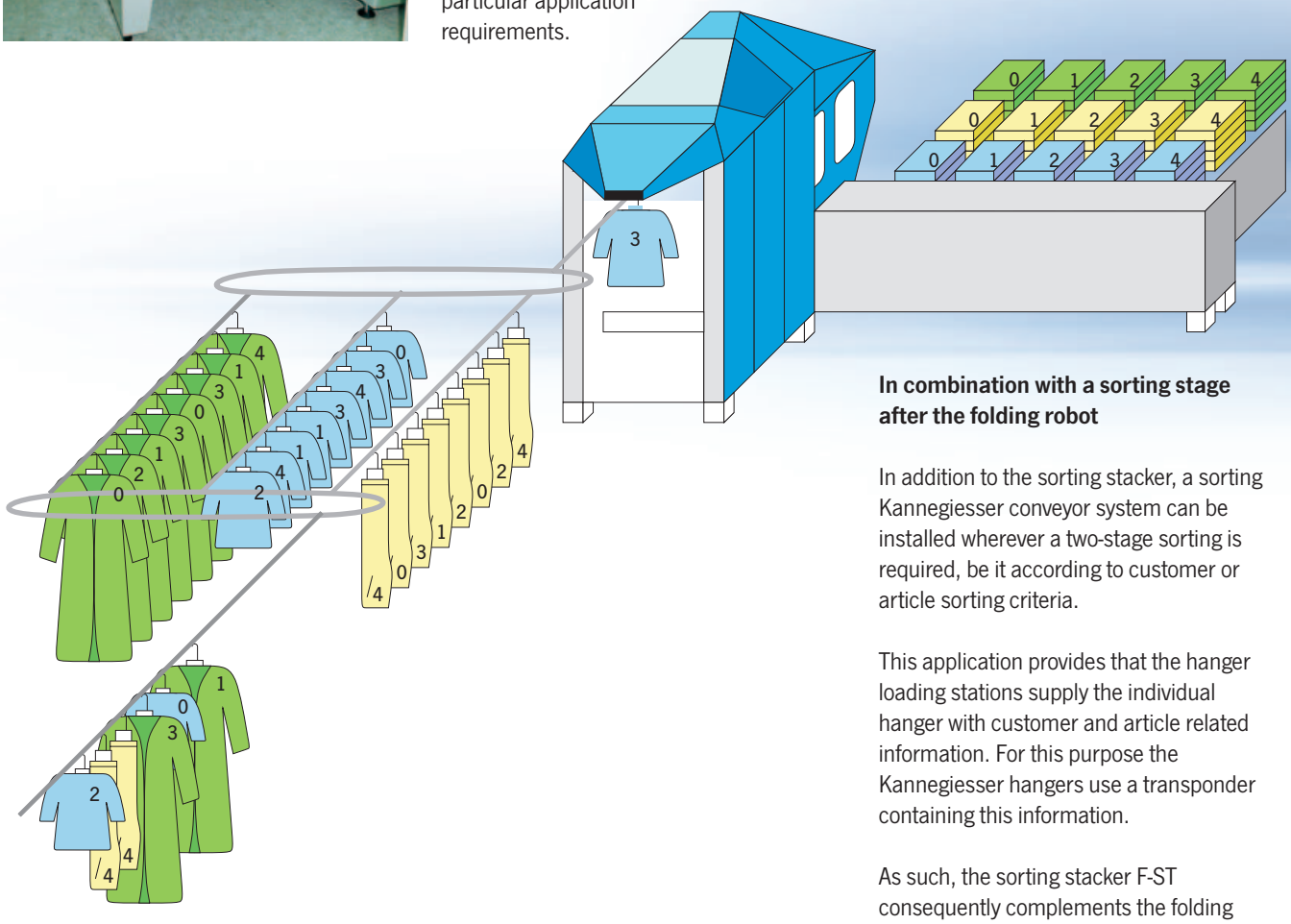
Due to the station first cross fold or the programmed pre-folding, a correspondingly “shortened” article passes the folding stations, resulting in shorter transport distances and higher performance output.

The consequent mechanical de-coupling of the drives in conjunction with a sophisticated, powerful software permits the full utilisation of timed overlaps – every tenth of a second during the operating sequence is utilised.

A high degree of availability is created due to the built-in operating reliability, which is one of the prerequisites for a consistent maximum performance.

Sorting stacker F-ST

The typical operating sequences provide that every item is manually handled and sorted following the folding process. Now this manual operation can be automated by the use of a suitable machine. The Kannegiesser sorting stacker F-ST, installed after the folding robot, takes each item and deposits it onto the stacking belts - sorted e.g. into article groups. The sorting stacker can be equipped from 4 up to 15 stacking belts, depending on the particular application requirements.



In combination with a sorting stage after the folding robot

In addition to the sorting stacker, a sorting Kannegiesser conveyor system can be installed wherever a two-stage sorting is required, be it according to customer or article sorting criteria.

This application provides that the hanger loading stations supply the individual hanger with customer and article related information. For this purpose the Kannegiesser hangers use a transponder containing this information.

As such, the sorting stacker F-ST consequently complements the folding robots aimed at achieving an increase per capita performance.

Folding robot FA-X M

Laundries faced with a diverse and particulary demanding garment range often prefer to use manually fed folding robots.
Not only due to the possibility to improve the folding quality with the most varied movements as well as by taking-off from the hanger as by laying-on the feeding table, folding robots from the series FA-X M can be found in many workwear plants.

Mode “Wider laying-on table”

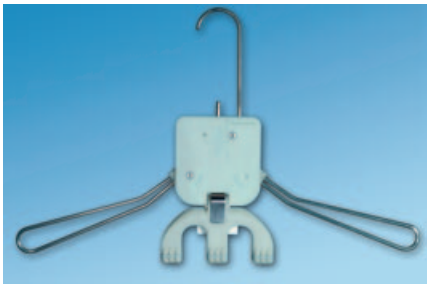
The highest demands (e.g. for chief jackets or similar) will be achieved by changing over to the wider laying-on table.

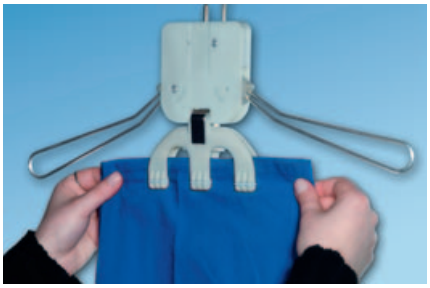
With it the sleeves on their whole length will be put alongside the later length folding of the body. A fold around this axis takes place inside the fold robot, so that the whole sleeve will lay smoothly inside the garment without any crossings.

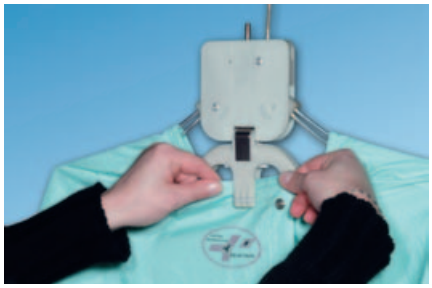
A continuously adjustable height adaption within the ergonomical laying-on area provides optimal working conditions for the operator.

System hangers

- Our system hangers having been designed with a great deal of commitment and care are ideal for the functional reliability of the overall system, for the folding quality and the operating costs.
- Proven combination of wear and temperature resistant plastic and stainless steel components
- Only a few individual components composed from a modular system
- Easy repair possible on site
- Shock absorbent and robust hanger neck
- Simple integration of bar codes or transponders at prominent, visible locations
- Ergonomic handling for all types of items







Technical Data

Model	Length mm	Width mm	Height mm	Maximum item length mm	Folded length mm	Folded width mm	Connected load kW	Compressed air pressure bar	Net weight kg
FA-X M	4120	1270	1730	max. 1800	300 - 450	250 oder 280	2,8	6,5	1300
FA-X 700	3830	1270	2750	max. 1800	300 - 450	250 oder 280	2,8	6,5	1300
FA-X 900	3830	1270	2750	max. 1800	300 - 450	250 oder 280	2,8	6,5	1300

Subject to alternations in Detail

05/2004 KW

This broschure contains optional equipments.

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