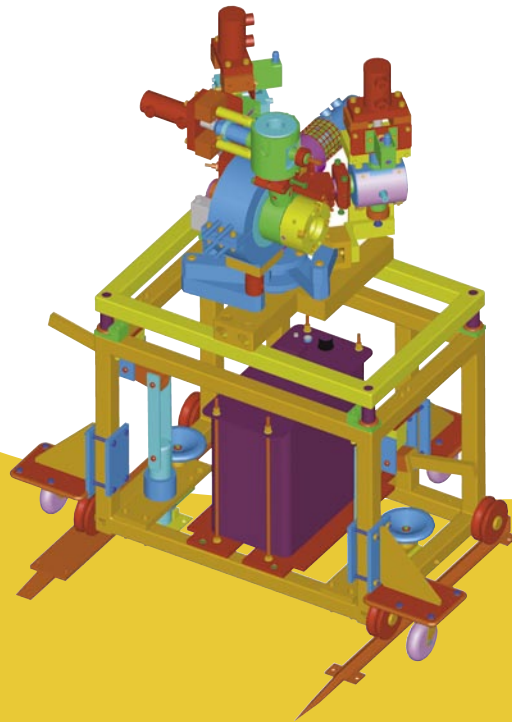




UNITEK



Colour Changing Systems
Farbwechselsysteme

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Colour Changing Systems

Depending on the product and the requirements one can choose from about two dozen different systems. The right selection will mainly be subject to the necessary changes such as basic colour, stripe colour or both, wall thickness, insulation material or the frequency of the colour changes. According combinations of two or up to five extruders may be used together with one or both of the following changing valve systems.

Changing Valve System UCCS

The patented UCCS valve is characterized by a number of features:

- change over between the two extruders is made by turning the piston
- one extruder is in working position the other one is in bleeding position (stand-by)
- in the extruder currently in bleeding position the colour is changed to the next one to be produced
- the piston has 1 working and 2 bleeding channels
The material flows left/right (red) or right/left (yellow) into the head and never stands still inside the working channels
- during change over the material flow is not interrupted (see middle position)
- an axial movement of the piston brings both extruders in bleeding (bypass) position
- particularly suitable for thin wall products and short production runs

Changing Valve System ULCS

The ULCS valve is working according to the layer change principle with the following features:

- depending on the position of the valve, the mass from one extruder is diverted to the inside (non visible) whereas the other is diverted to the outside (desired colour)
- during switch over the material flow is not interrupted (see middle illustration)
- colour changes are made in the (non visible) layer
- no extreme short production runs (time required for colour changing in the inner layer determines minimum length)

Farbwechselsysteme

Je nach Produkt und Anforderung kann aus rund zwei Dutzend Systemen gewählt werden. Die Auswahl richtet sich im Wesentlichen danach, was gewechselt werden soll, Grundfarbe, Streifenfarbe oder beide Farben, nach der Wandstärke, dem Isolierungsmaterial, sowie der Wechselfrequenz. Dementsprechend kommen Kombinationen von zwei bis fünf Extrudern zum Einsatz mit einer oder beiden der folgenden Wechselventilsysteme.

Wechsler System UCCS

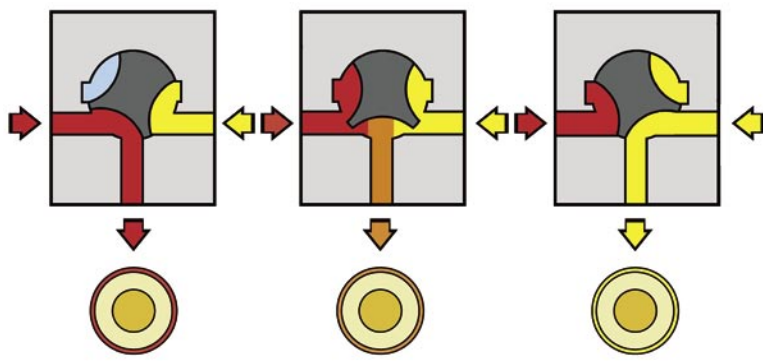
Der patentierte UCCS-Wechsler ist durch eine Reihe von Merkmalen gekennzeichnet:

- durch eine Drehbewegung des Kolbens wird zwischen den beiden Extrudern umgeschaltet
- ein Extruder befindet sich in Arbeitsposition, der andere in Spülposition
- der in Spülposition befindliche Extruder wird auf die neu zu produzierende Farbe umgefärbt
- der Kolben hat 2 Spül- und 1 Arbeitskammer und das Material fließt links/rechts (rot) oder rechts/links (gelb) durch die Arbeitskammer in den Kopf und steht daher nie still
- während des Umschaltens wird der Materialfluss nicht unterbrochen (siehe Mittelposition)
- durch eine Schiebewegung des Kolbens werden beide Extruder in Spülposition gebracht
- auch für dünnwandige Produkte und kurze Produktionsanlagen geeignet

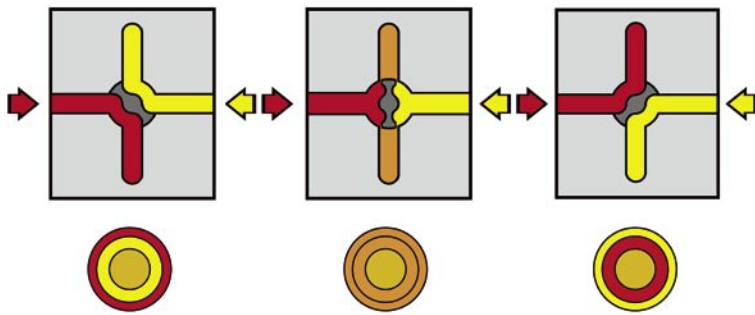
Wechsler System ULCS

Der ULCS-Wechsler arbeitet nach dem Lagenwechselprinzip mit folgenden Merkmalen:

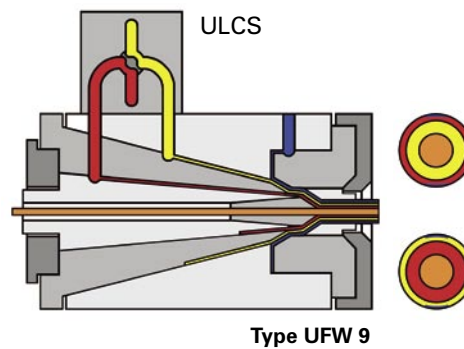
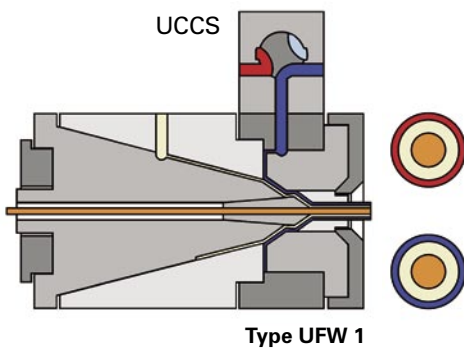
- je nach Position des Drehkolbens wird der Massestrom beider Extruder entweder nach rechts (linke Darstellung) oder nach links (rechte Darstellung) umgelenkt
- während des Umschaltens (siehe Mittelposition) wird der Materialfluss nicht unterbrochen
- das Umfärben erfolgt immer in der (von außen nicht sichtbaren) Innenlage
- keine extrem kurzen Längen möglich (die Dauer der Umfärbung in der Innenlage bestimmt die Mindestproduktionslänge) und keine dünnen Wandstärken (Farbtransparenz)



System UCCS



System ULCS



Colour changing systems/Farbwechselsysteme

Type	extruder	
UFW 1	3 extruders	stripe or skincolor change/2 extruders in operation, 1 co-extruder in bleeding position
UFW 3	4 extruders	skin with stripe color change/3 extruders in operation, 1 co-extruder in bleeding position
UFW 4	4 extruders	skin color change with neutral or foamed inner layer
UFW 7	2 extruders	layer changing/2 extruders in operation
UFW 9	3 extruders	layer changing and stripe/3 extruders in operation
UFW 11	3 extruders	layer changing with transparent skin/3 extruders in operation
UFW 12	4 extruders	layer changing with barrier layer and stripe/4 extruders in operation
UFW 13	4 extruders	stripe changing with barrier layer, and interrupted skin
UFW 15	4 extruders	layer and stripe changing/3 extruders in operation, 1 stripe extruder bleeding position
UFW 16	4 extruders	layer and stripe change with bleeding cartridge/2 extruders in operation
UFW 18	5 extruders	layer and stripe change with bleeding cartridge, barrier for thin wall/3 extruders in operation
UFW 19	3 extruders	stripe or skin change/3 extruders in operation
UFW 20	4 extruders	stripe change, barrier for thin wall /4 extruders in operation
UFW 21	4 extruders	skin and stripe color change with bleeding cartridge /3 extruders in operation
UFW 22	4 extruders	skin and stripe colourchange/4 extruders in operation
UFW 23	5 extruders	skin and stripe color change/5 extruders in operation, with barrier for thin wall



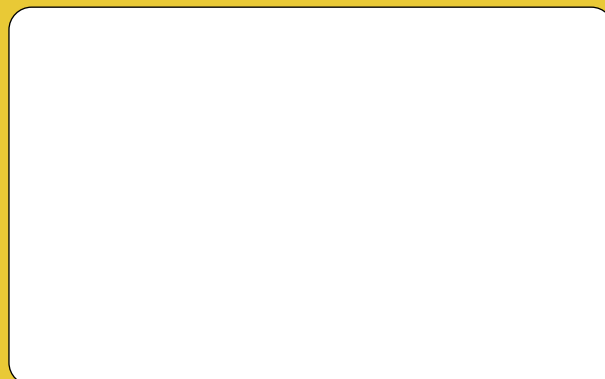


THE COMPANY AT A GLANCE

UNITEK is the worldwide leading manufacturer of fixed centered crossheads and add-on technology for the wire and cable industry. The company was founded in 1979 and ever since has been dedicated to providing innovative solutions for increased productivity to the extrusion industry around the world. Close contacts with cable and machinery manufacturers, high standards of research and development as

well as state-of-the-art production facilities for highest precision and quality have been the basis of UNITEK's philosophy from the very beginning. The UNITEK team of engineers, technicians and managers has a very strong background in the extrusion and cable industry and is dedicated to providing cutting-edge solutions for the requirements encountered by today's cable industry.

- Crossheads (fixed centered as well as manually centered) including add-on technology such as tips & dies, colour changing systems, bypasses, adapters, support trolleys and cartridge extraction devices
- Extrusion heads made of special steel alloy with unique curing technique
- Extremely durable crossheads with lifetimes of more than 60.000 hours of operation
- Close to zero scrap during start-up (using fixed-centred crossheads)
- Extremely high precision manufacturing
- Unrivalled concentricity during coating for reduced cost of materials
- Over 10 worldwide patents
- 800 satisfied customers in over 40 countries worldwide



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