



13-15 September / Eylül 2012, Tüyap, İstanbul

6th International Ankiros Foundry Congress
6. Uluslararası Ankiros Döküm Kongresi



**Bu bildiri 6. Uluslararası Ankiros Döküm
kongresinde sunulmuştur**

**This paper was presented on 6th Ankiros
Foundry Congress**

<http://kongre.tudoksad.org.tr/>

Eylül 2012
September 2012
Tüyap, İstanbul

**Lower your cost per casting by precise
moulding with the DISA MATCH machine**

Ankiros Exhibition 2012

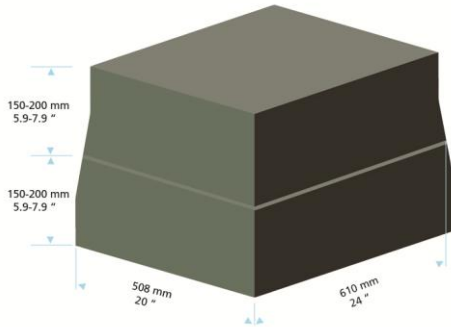
Why MATCH plate moulding?

- Goal is to move casting production from flask lines to “flask less” production
- Help customers in lowering the actual cost per casting with high efficient moulding machines

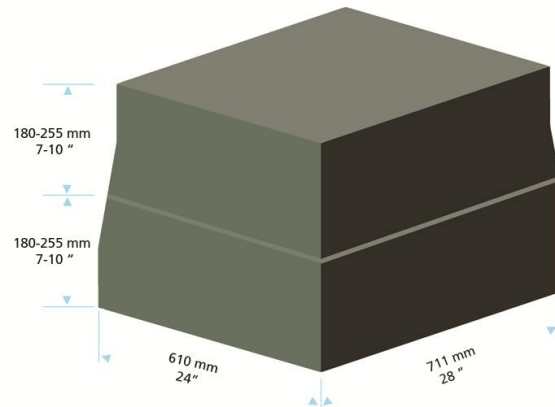


Four mould sizes

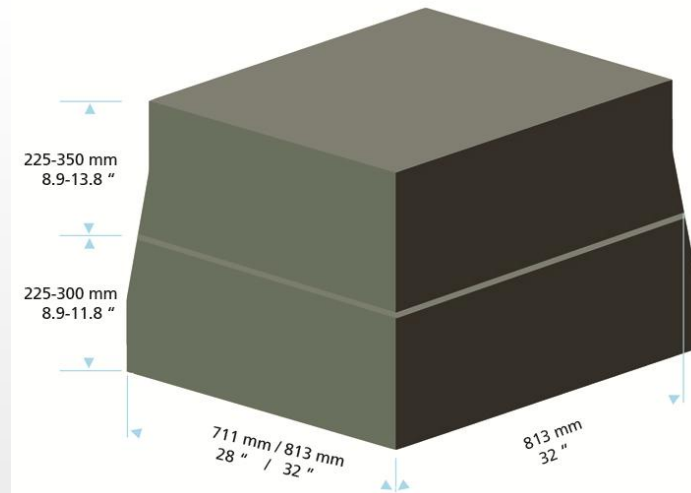
MATCH 20/24



MATCH 24/28



MATCH 28/32 & 32/32



Features on DISA MATCH

- Quick MATCH plate changer (QMC)

- Flexible mould design

- Easy access to moulding area

- Automatic core setting (CSE)

- State-of-the-art control system

- Service friendly design



Benefits on DISA MATCH - DMM

- **Optimum efficiency**

- high speed of upto 160 uncored m/h due to unique DISA blow/squeeze mechanism (cored speed of up to 120 m/h)

- **Excellent castings**

- with machine-related mismatch of max 0.15 mm for minimal finishing costs

- **Unbeatable uptime**

- extremely robust and simple design with state-of-the art PLC system



- **Automatic core setter (CSE)**

- for fast and precise core setting

Features

- The core setter ensures operator 36 sec. for setting cores in mask
- Manual core setting allows 6 sec.
- Fast and easy change of the core mask
- Fixed alignment with the chamber – no additional alignment required
- Guiding pins eliminates need for tools



Precise and accurate moulding with DISA MATCH

Why precise and accurate?

- Based on 45years knowledge with DISAMATIC vertical moulding machines
- Unique tie rod assembly, with DISA oil lubricated bronze bushings
- Perfect and smooth operation, which ensure the right handling of the MATCH mould
- Hard and dense moulds, because of DISA unique sand blow system



- **Easy access to molding area**

- user-friendly design for easy pattern plate change and operation

Features

- Quick Match plate Changer (QMC) operated in front of machine
- Increased space between chambers for better access to core setting and blow-off
- Wide access area with light curtain for best possible working conditions



- **Moulding machines**

Vertical lines

Flask lines

Match Plates

- **Sand plants**

Mixers

Sand Multi Controller

Cooling drums

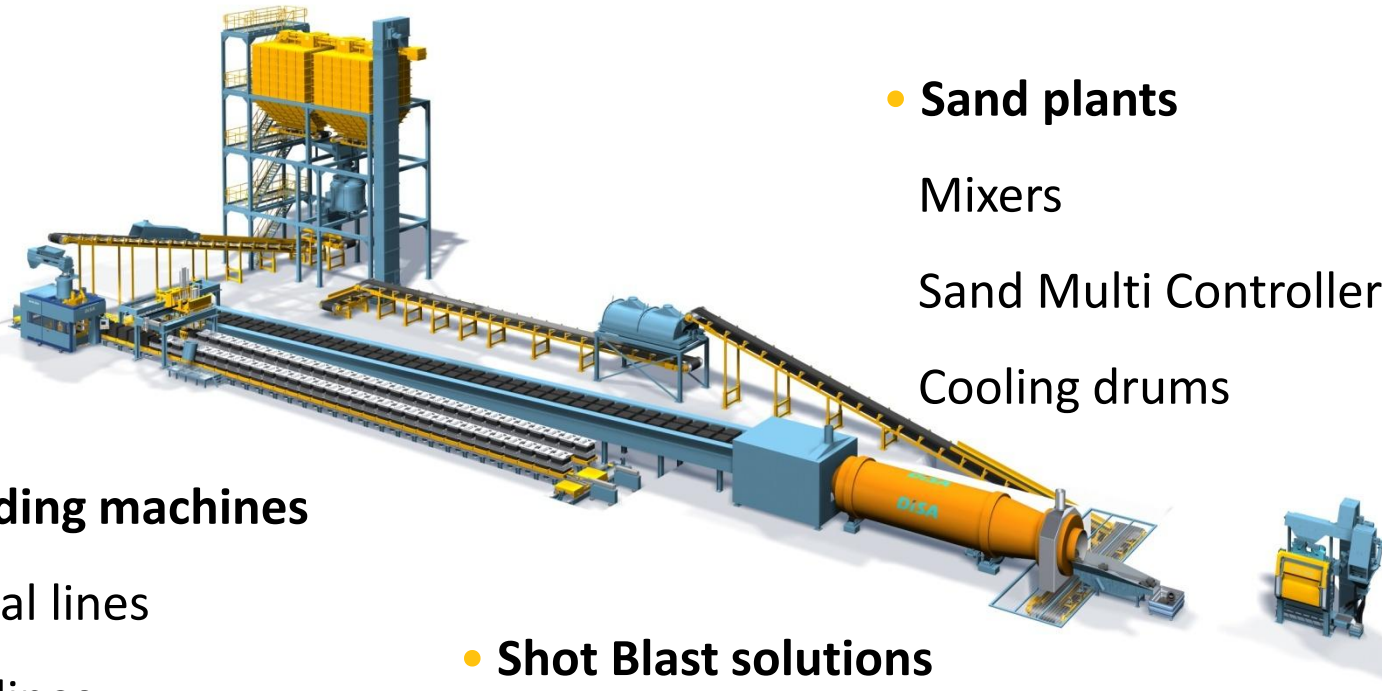
- **Shot Blast solutions**

Hanger type

Batch type

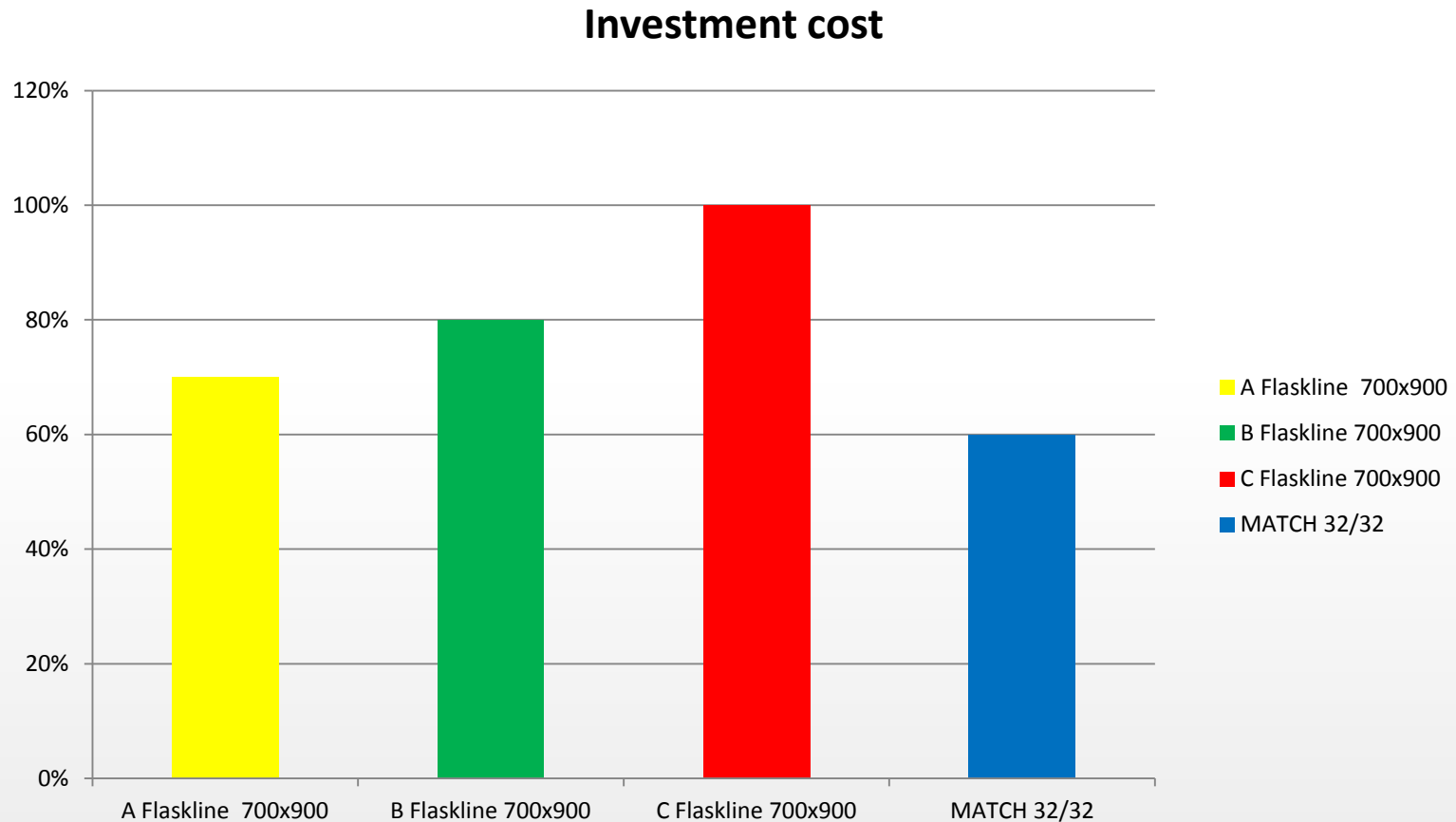
Through-feed

Manipulator

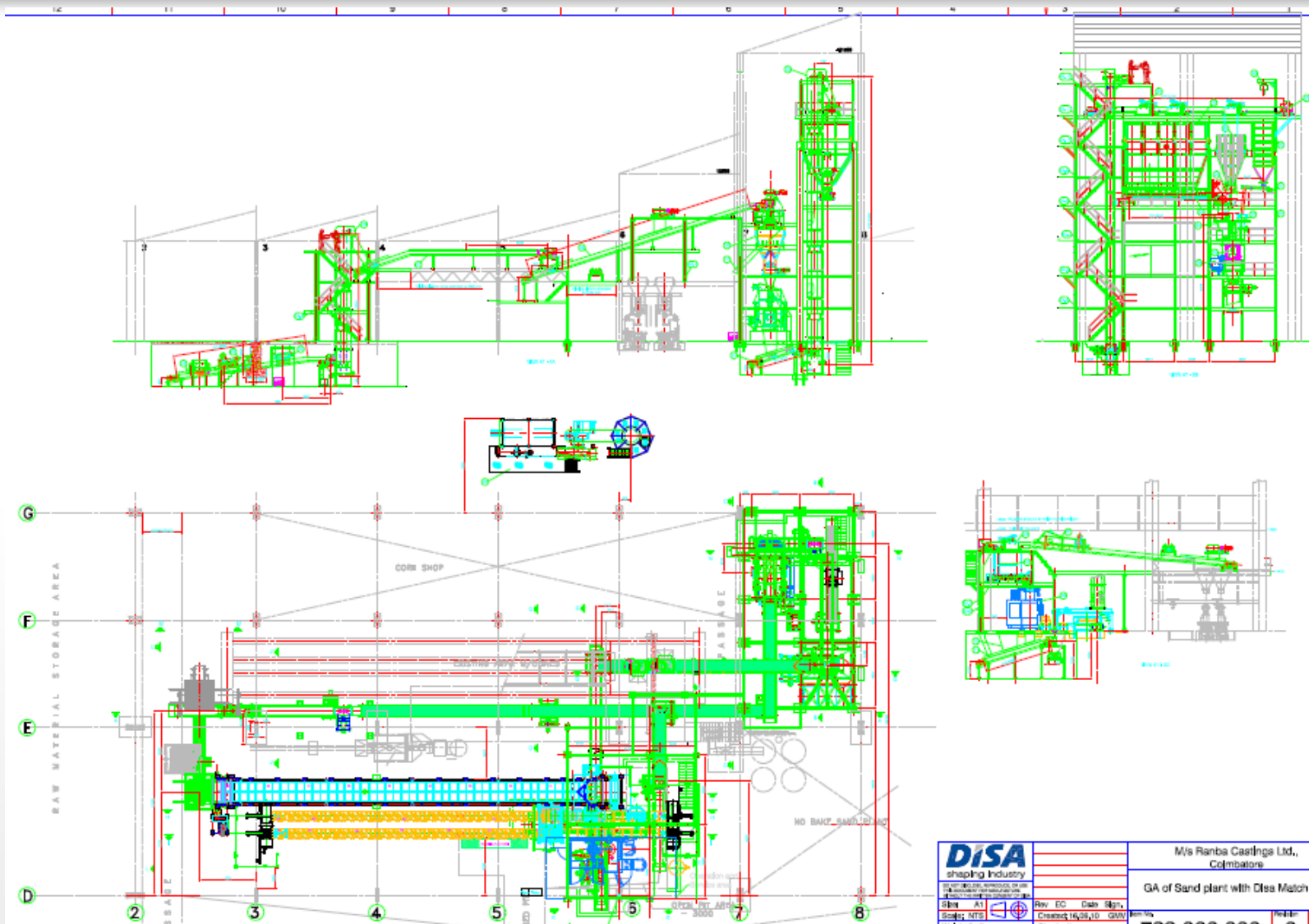


Investment cost in a DISA MATCH moulding line

Ex. mould size 813x813, complete line incl. Automatic Mould Handling (AMH), 60 min cooling time, Pallet cars, Alu. Jackets and Weight Irons.



Example of DISA MATCH moulding line in existing foundry



Benton Foundry, PA - USA

Alfred B. "Fritz" Hall
President, Benton Foundry

2000: 1 * DISA MATCH 130

2005: 1 * DISA MATCH 130

2008: 1 * DISA MATCH 130

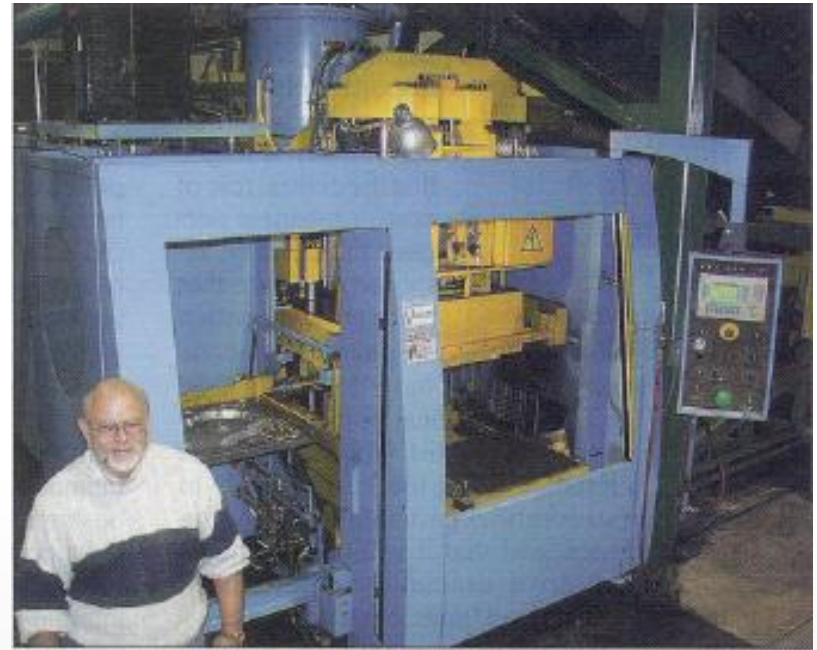
Founded: 1958

Metal: Grey & Ductile Iron

Products: Valves, electric motors, pumps

Net sales: \$ 35 million

Employees: 250



Before (on their older MATCH machine):

34 molds/hour

Handpacking

Soft moulds

Difficult to draw off

1 impression matchplate, 1 three piece core assembly, 15 chaplets are pre attached

Now on their DISA MATCH:

100 molds/hour

No handpacking

Improved casting surface



DISA MATCH replace – Jolt Squeeze

- DISA MATCH 130 replace Jolt Squeeze 700X600 X 200/200 – 2 Lines
- Higher Yield, Lower Scrap
- Manpower – 16 – 2 /shift



Replacement of jolt squeeze flaskline with MATCH

DOC NO. : FM-QC-14
MC. No. : MC-DAN-02

ISSUE : 2

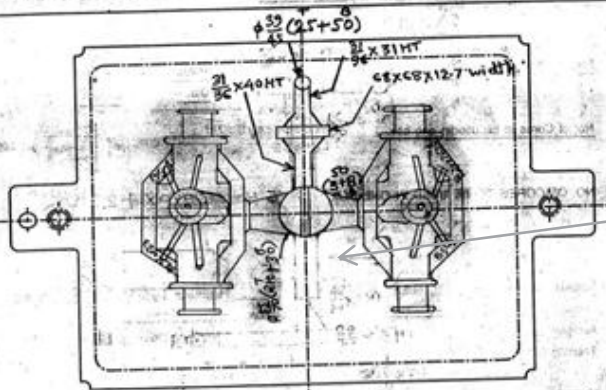
REV 04 METHOD CARD Date : 15-4-07

Part Name : CARRIER ROUGH Customer Name : SPICER CO LTD

Drawing No. E 2007628 Plate No. B-104 Box Size : Top Bottom
720 x 570 6" HL 8" HL

No. of Pattern : 2 Pcs : 4 No. of Core Boxes : 2+4+4 Pcs. A+B+B

Pattern Material : ALU. Core Box Material : GI



Casting Wt. 13.38 kgs Pouring Wt. 11.52 kgs Yield 64.45 %

Down sprue C. S. area 1134 mm² Runner bar C. S. area 1102 mm² Choke C. S. area 384 mm²

Sub runner bar C. S. area 384 mm² Ingate C. S. area 384 mm² Ratio : 1:0.8:0.34

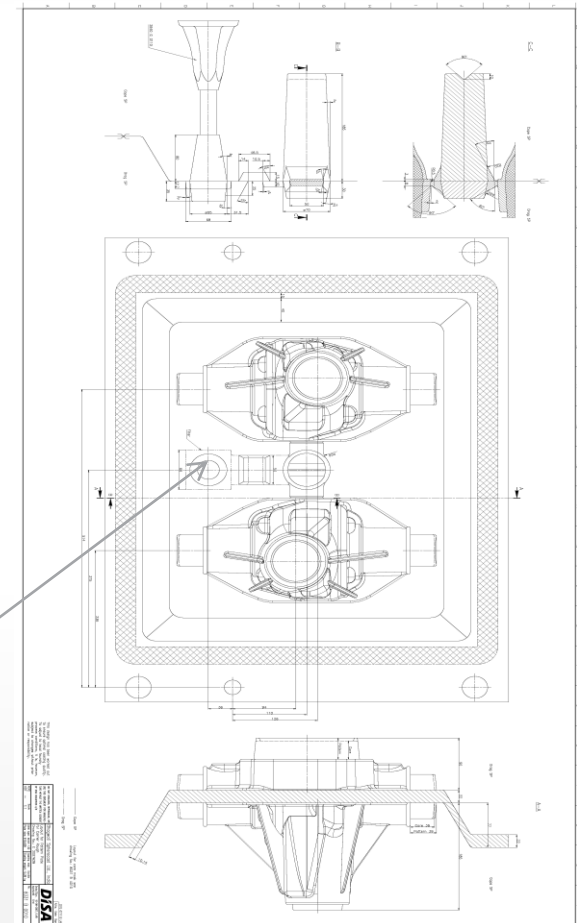
No. of vents 2 vent sizes 25x40 mm

Remarks : (1) REV-01 - Revise Dwg & Dwg number of 27.5.06 Psg.
(2) REV-02 - B&B PATTERN IS MADE T.S. NO. 460 Psg.
(3) REV-03 - chill provided at main case as shown in sketch T.S. NO. 571
(4) REV-04 - filter added T.S. NO. 650 Psg.
(5) _____
(6) _____
(7) _____

Conventional Jolt Squeeze
600X700X250/250

64.45 %

71 %



MATCH 130
500X600X200/200

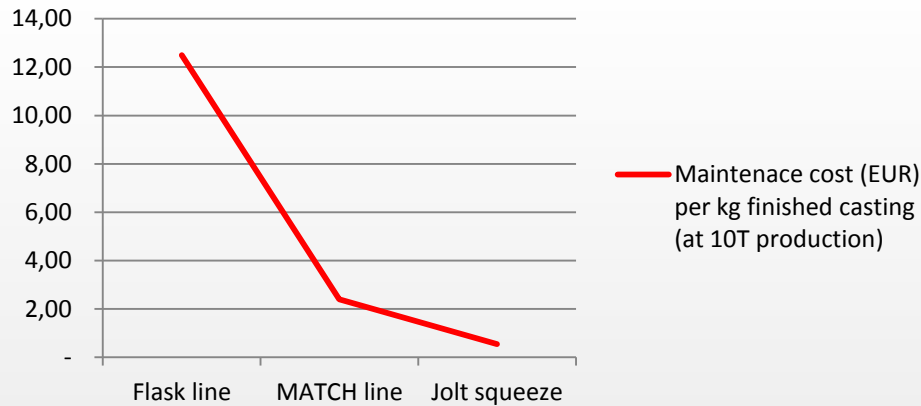
Advantages of the DISA MATCH process vs. Jolt Squeeze line

MATCH 20/24		
	Jolt Squeeze	MATCH 130
Moulds/hour	100	140
Man power/shift	16	2
Investment moulding - in EUR	270.000	700.000
Project investment in EUR	1.300.000	1.500.000
Out put TPA	9600	10800
Quality	Acceptable	Improved
Rejection		Relative low
Casting Fettling		Relative low

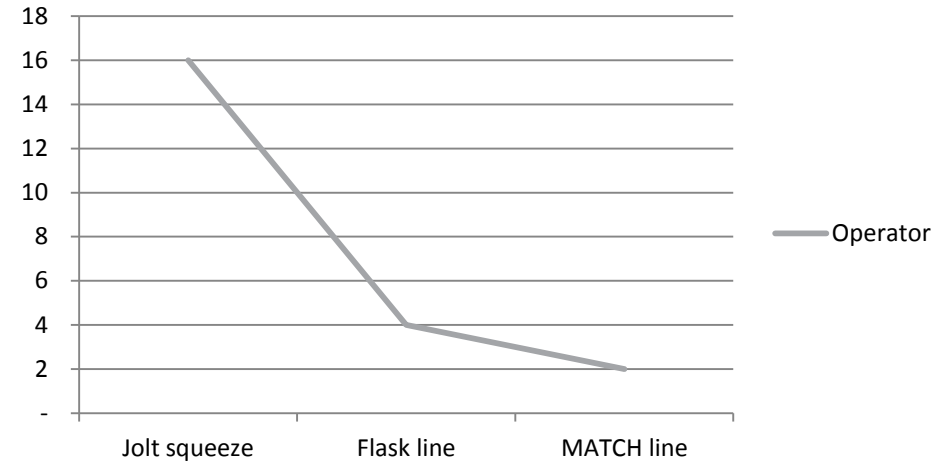
How to save money by making new investments



Maintenance cost (EUR) per kg finished casting (at 10T production)



Operator



DISA MATCH References in Turkey

2011 MATCH 24/28 – Lava Döküm

2012 MATCH 24/28 – Denezciler

2012 MATCH 20/24 – Yazkan





Founded on Innovation

World-leading moulding,
sand plant and core technology.

DISA
shaping industry

www.disagroup.com



Shaping Industry

Together,
DISA and Wheelabrator
have the strength,
experience and innovation to
shape industry in the future.

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Thank you for your kind attention!

DISA – “Lower your cost per casting”

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shaping industry