

20.3.2013



Briquetting press Arnobrik

Why Briquetting



Adding value through:

- Reducing transport volume
- Reduced ignition loss during melting
- Recovery of coolants and lubricants
- Avoiding landfill and environmental pollution
- Higher purity of secondary raw materials



ATM -Machines



The Briquetting press

Arnobrik

- . 6 sizes with \varnothing 70 - \varnothing 200
- . Arnobrik 5, 7, 10, 12, 15, 18
- . Individual filling variations for different materials
- . Production rate
500 to 10,000 kg per hour
- . Recovery of Coolant and Lubricants possible



Arguments for ATM

- ✓ Over 50 years experience in processing of scrap metal
- ✓ 100% in house production
- ✓ Continuous quality assessment
- ✓ Acceptance with the original materials from the customer
- ✓ Service world wide / Online Service via modem
- ✓ Original spare and wear parts for all delivered machines available



- ✓ **ARNOLD Technology with moving tool holder and module hydraulic pump system**
- ✓ **ATM produces the Briquetting press with the highest performance 8.500 KN pressing force and special feeding variants incl. special chips handling systems.**

Feeding -Systems



Without feeder



Diagonal feeder



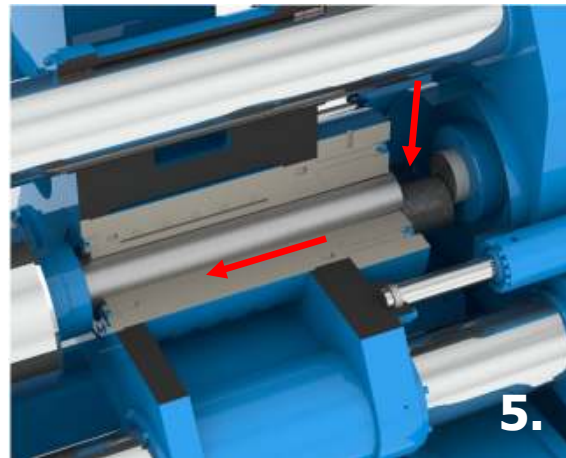
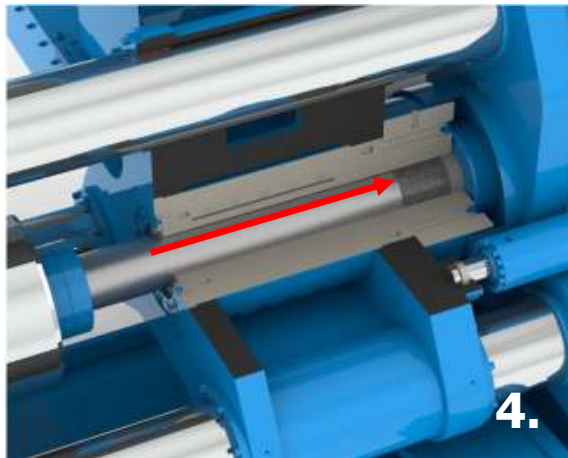
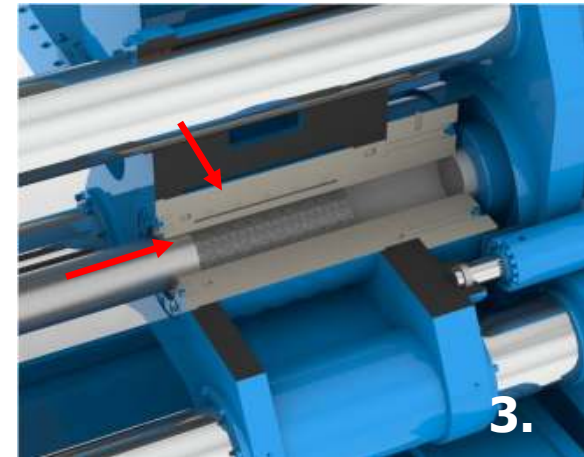
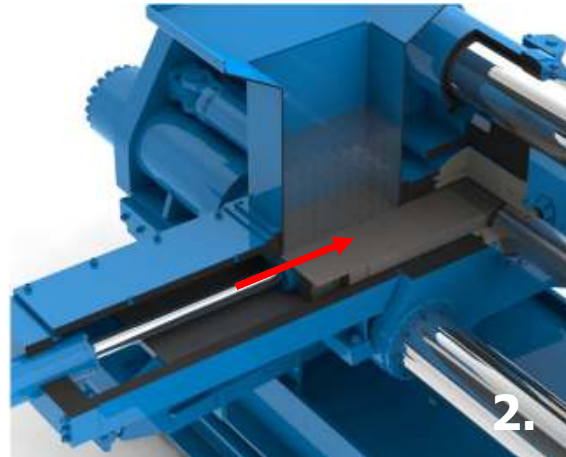
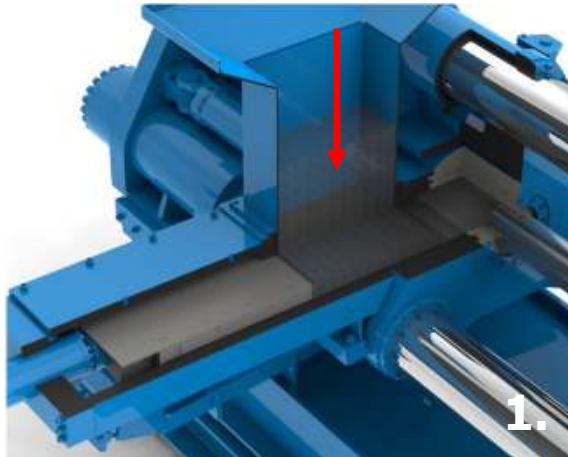
Horizontal feeder



Two compression feeder

Steps of Function

Press cycle step bzw step



- 1. material feeding
- 2. pre compression
- 3. pressing
- 4. final pressing
- 5. briquette ejection

Arnobrik 5

References:



Arnobrik 5 Italy



Briquette ø:	50, 70 mm
Press force:	700 KN
Capacity:	till 250 kg Steel, Gush till 120 kg Aluminium
Power:	11 or 15 KW
Weight:	3.000 Kg



Arnobrik 7, Japan

Briquette ø: 50, 70, 90 mm
Press force: 1.400 KN
Capacity: till 550 kg Steel, Gush
 till 250 kg Aluminium
Power: 22 or 30 KW
Weight: 5.000 Kg

References:

Brikettierpressen HSB 7

1 Presona Inc.	USA	Stahl
1 Scanrec Inc.	USA	Stahl
1 BHS Bernd Haid	Deutschland	Stahl
1 INA /Haguenau	Frankreich	Schleifschlamm
1 Daimler Chrysler/Stuttgart	Deutschland	Schleifschlamm
1 INA /Luckenwalde	Deutschland	Schleifschlamm
1 INA /Haguenau	Frankreich	Schleifschlamm
1 INA /Haguenau	Frankreich	Schleifschlamm
1 Scanrec Inc.	USA	Aluminium
1 Scanrec Inc.	USA	Mischung
1 Presona Inc.	USA	Stahl
1 Presona Inc.	USA	Stahl
1 Bosch Jhlava	Tschechien	Aluminium
1 INA Werk Schaeffler OHG/Nürnberg	Deutschland	Schleifschlamm
1 CTG Chemisch Technisch GmbH	Deutschland	Mischung
1 ANOR	Frankreich	Mischung
1 Presona Inc.	USA	Mischung
1 Presona Inc.	USA	Mischung
1 Metac France/Bahrain	Bahrain	Aluminium
1 Presona Inc.	USA	Aluminium
1 Presona Inc.	USA	Aluminium
1 VW Salzgitter	Deutschland	Stahl
1 United Alloys Inc. Los Angeles	USA	Aluminium
1 Presona Inc.	USA	Stahl
1 Presona Inc.	USA	Stahl
1 Presona Inc.	USA	Stahl
1 Imetall	Schweiz	Mischung
1 Bosch/ Bari	Italien	Stahl
1 Bosch Feuerbach/Stuttgart	Deutschland	Stahl
1 Bosch Technologie Diesel Italia S.p.A.	Italien	Stahl
1 Bosch Feuerbach	Deutschland	Stahl
1 INA Kyusuco	Slowakei	Schleifschlamm
1 INA Kyusuco	Slowakei	Schleifschlamm
1 Silver Cay	Niederlande	Aluminiumpulver
1 Kwanda	Südafrika	Alu/Kupfer
1 Correns Corporation	Japan	Aluminium
1 Correns Corporation	Japan	Aluminium
1 Correns Corporation	Japan	Stahl
1 Correns Corporation	Japan	Aluminium

References:



Arnobrik 10, Belarussia

Briquette ø: 90, 105 and 120 mm
Press force: 2.900 KN
Capacity: till 1,6 ton Steel, Gush
 till 0.6 ton Aluminium
Power: 60 KW
Weight: 10.000 Kg

Brikettierpressen HSB 10

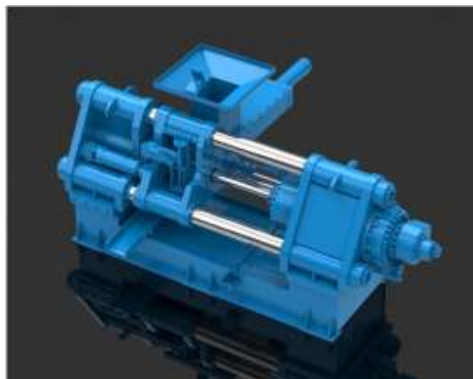
1 Pannonia-Csepel/Budapest	Ungarn	Magnesium
1 Fiday Gestion	Frankreich	Guss
1 Energoinvest - Aluminiumfabrik EAL/Most	Serbien	Guss
1 Sittard GmbH/Saarbrücken	Deutschland	Stahl
1 Polcopper	Polen	Kupfer
1 Raufoss	Norwegen	Messing
1 Oerlikon- Bührle AG	Algerien	Aluminium
1 Aluminium de Grece	Griechenland	Aluminium
1 Pontalbar Trading Ltd.	Schweiz	Stahl
1 Gleich GmbH/Kaltenkirchen	Deutschland	Aluminium
1 Vas Ker Trans Kft.	Ungarn	Stahl
1 Europeenne SEA/Chartres	Frankreich	Aluminium
1 Colectican/Johannesburg	Südafrika	Mischung
1 Remag Recycling	Österreich	Magnesium
1 hydr. Aluminium Fundo A. S.	Norwegen	Aluminium
1 Asta-Oed	Österreich	Kupfer
1 Elkem Aluminium	Norwegen	Guss
1 Continus Cast.	Norwegen	Aluminium
1 Impsa/Pescarmona	Argentinien	Aluminium
1 Heid-Stockerau	Österreich	Stahl
1 Boschan & CO/Liesing	Österreich	Messing
1 Carl Persson & Söner/Alvesta Gjuteri AB	Schweden	Aluminium
1 ALT & Co GesmbH/Blumau	Österreich	Aluminium
1 CRANE-Niederland N.V./Deventer	Holland	Mischung
1 Kerschler/Nürnberg	Deutschland	Aluminium
1 Haellforsnaes/Ystad	Schweden	Mischung
1 Technoimpex/Budapest	Ungarn	Guss
1 KOMPLEX	Ungarn	Stahl
1 W.E.Burnand & Son Ltd.	England	Stahl
1 Persöner AB/Höganäs	Schweden	Aluminium
1 Omnipol/Prag/Teheran	Iran	Stahl
1 Strojimport	Rusland	Aluminium
1 Strojimport	Rusland	Stahl
1 Metatherm	England	Stahl
1 Henschel Export GmbH/Düsseldorf	Kenia	Stahl
1 OMNIPOL/LIBYEN	Libyen	Stahl
1 Magrec GmbH	Deutschland	Magnesium
1 Yih Tai Technology Corp.	Taiwan	Guss
1 Kohl GmbH & Co. KG	Österreich	Guss
1 THU Tido Hölling	Österreich	Stahl
1 Therma FM s.r.o.	Tschechien	Stahl
1 OJSC Minsk Plant of Heating Equipment	Weissrussland	Guss
1 KOBA Organizacja	Polen	Aluminium
1 St Comp Magyarorszagi / Hunferex	Ungarn	Mischung
1 Salem Ehitus	Russland	Stahl
1 Salem Ehitus	Russland	Stahl
1 Therma FM s.r.o.	Tschechien	Stahl
1 Monico Alloys, Inc.	USA	Nickel
1 Correns Corporation	Japan	Aluminium
1 Sims Metal Management Aerospace	USA	Aluminium
1 Monico Alloys, Inc.	USA	Titan

Arnobrik 12

Reference: Schupan & Sons USA
Crestwood USA
Mechanore- Russia
montnyi



Arnobrik 12, Russia



Briquett ø: 125, 135 mm
Press force: 4.200 KN
Capacity: - 3,5 to Steel, Cast
- 1,5 to Aluminium
Drive: 90 KW
Weight: 20.000 Kg

Arnobrik 15



Arnobrik 15, France

Reference:

Brikettierpressen HSB 15

1 Aluminium Pechiney Lavalin	Canada	Aluminium
1 Becker	Deutschland	Guss
1 Chabany S.A.	Frankreich	Guss
1 Metalifer	Frankreich	Guss
1 Thyssen Alpha	Deutschland	Guss
3 Hoi Shokai	Japan	Guss
1 Impol d.d.	Slowenien	Aluminium
1 Kerscher	Deutschland	Mischung
3 Lang	Deutschland	Mischung
1 Leber	Deutschland	Magnes. / Misch.
2 Lesch	Deutschland	Guss
1 Marx Spänlin	Frankreich	Guss
1 Metallverwertung GmbH	Deutschland	Aluminium
1 Oekotech Recycling	Österreich	Mischung
1 Myllyojan Metall OY	Finnland	Guss
1 Höganäs AB	Schweden	Pulver
1 Erasteel	Frankreich	HSS Stahl

Briquett ø:	140, 150 mm
Press force:	5.300 KN
Capacity:	- 4,5 to Steel, Cast - 2,2 to Aluminium
Drive:	120 KW
Weight:	30.000 Kg

Arnobrik 18



Arnobrik 18, Belarus



Reference:

Brikettierpressen HSB 18

1	Becker	Deutschland	Mischung
3	Bello Metal Recycling Windsor	Kanada	Guss / Stahl
1	Dockal	Österreich	Mischung
1	Fiday Gestion	Frankreich	Guss
1	ehem. Meh Werke Mscicol	Ungarn	Guss / Stahl
1	Lang	Deutschland	Mischung
1	Häti	Finnland	Stahl
3	Itra	Italien	Guss
1	Kosice	Slowakei	Guss / Stahl
1	Kovosrot Bratislava	Slowakei	Guss / Stahl
2	Kovosrot Prag	Tschechien	Guss / Stahl
1	Reclamation Group LTd.	Südafrika	Stahl
1	RRO-Rohstoff Recycling Osnabr.	Deutschland	Mischung
1	RuP Düsseldorf	Deutschland	Mischung
1	X.Wiederkehr AG	Schweiz	Aluminium
1	Vtoraluminiumprodukt	Russland	Aluminium
1	S.M.B.M. Societe Mulhousienne	Frankreich	Guss
1	Mansfelder Kupfer GmbH	Deutschland	Kupfer
2	JBS Metal Group Ltd. / Vtormet	Russland	Stahl
4	State Amalgamation Belvtormet	Weißrussland	Stahl
1	St. Comp / Hunferex	Ungarn	Stahl
1	Salem Ehitus	Russland	Stahl

Briquette ø: 180, 195 mm
Press force: 8.500 KN
Capacity: - 8 to Steel, Cast
 - 3 to Aluminium
Drive: 180 KW
Weight: 45.000 Kg

Arnobrik 22

Reference:

Elval Aluminium - Greece



Briquett ø:
Press force:
Capacity:

220, 250 mm
12.500 KN
- 15 to Steel, Cast
- 5 to Aluminium

Drive:
Weight:

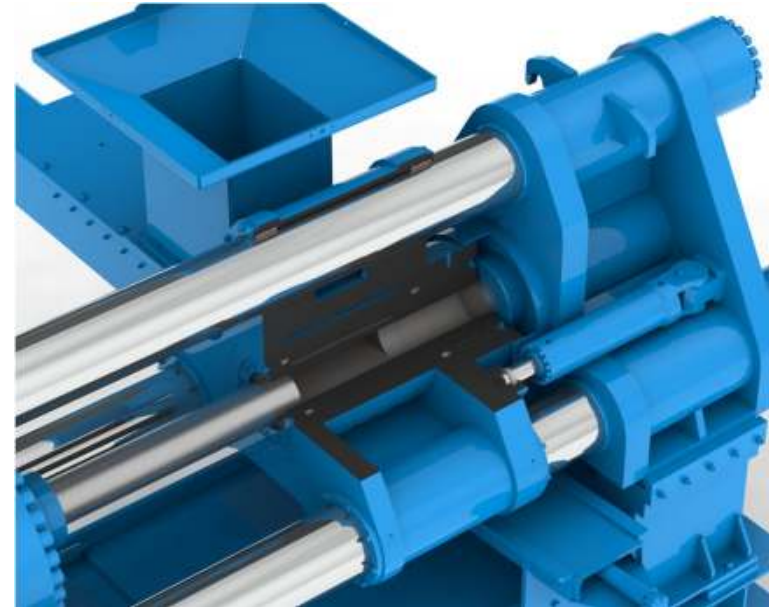
320 KW
90.000 Kg

Technical data

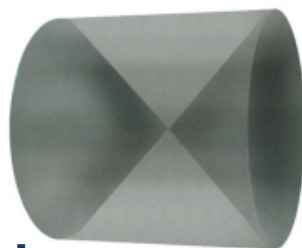
		HSB 7	HSB 10	HSB 12	HSB 15	HSB 18
Briquette diameter	mm	70	105	125	140	180
Briquette diameter max.	mm	90	120	153	150	195
Power main cylinder	kN	1.400	2.900	4.150	5.300	8.500
Briquette density steel, cast iron	kg/dm ³	<5,5	<5,5	<5,5	<5,5	<5,5
Briquette density aluminium	kg/dm ³	<2,4	<2,4	<2,4	<2,4	<2,4
Briquette density brass, copper	kg/dm ³	<7,0	<7,0	<7,0	<7,0	<7,0
Capacity steel, cast iron	t/h	<0,5	<1,5	<2,9	<4,5	<7,5
Capacity aluminium	t/h	<0,25	<0,6	<1,1	<2,2	<3,5
Capacity brass, copper	t/h	<0,6	<2,0	<3,5	<6,0	<8,0
Cycle time standard performance	sec	10	10	10	10	10
Driving power standard	kW	22	60	90	120	180
Driving power increased	kW	30	-	-	-	-
Footprint	m x m	3,5x1,8	4,3x3,6	4,5x5	5x8	6,5x8,5
Machine weight	t	5	10	20	30	45

Advantages - Pre compression

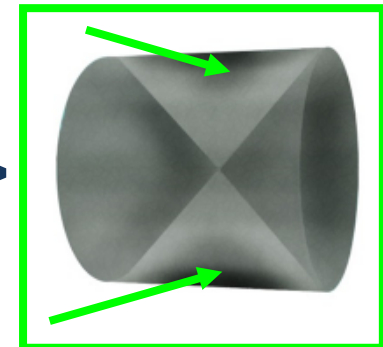
The main advantages of ATM – Briquetting presses



- **moveable tool-holder
for high density briquettes**

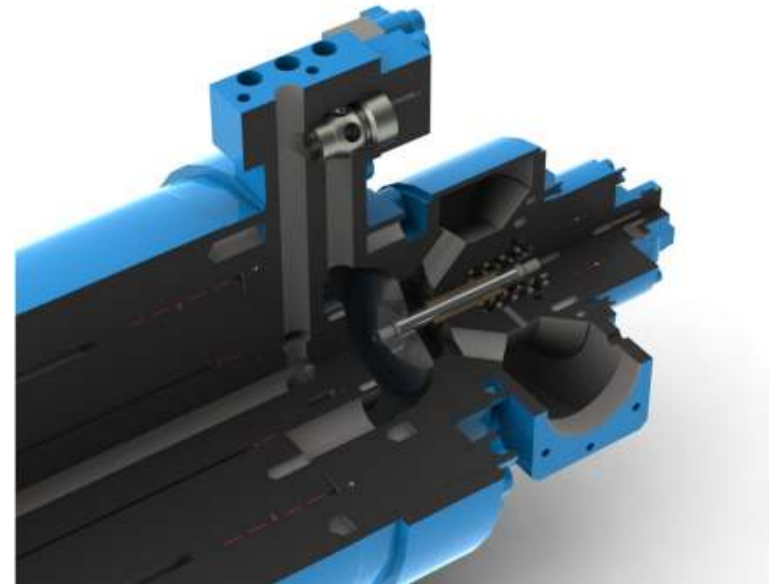
 **ATM >**

High pressure on both sides



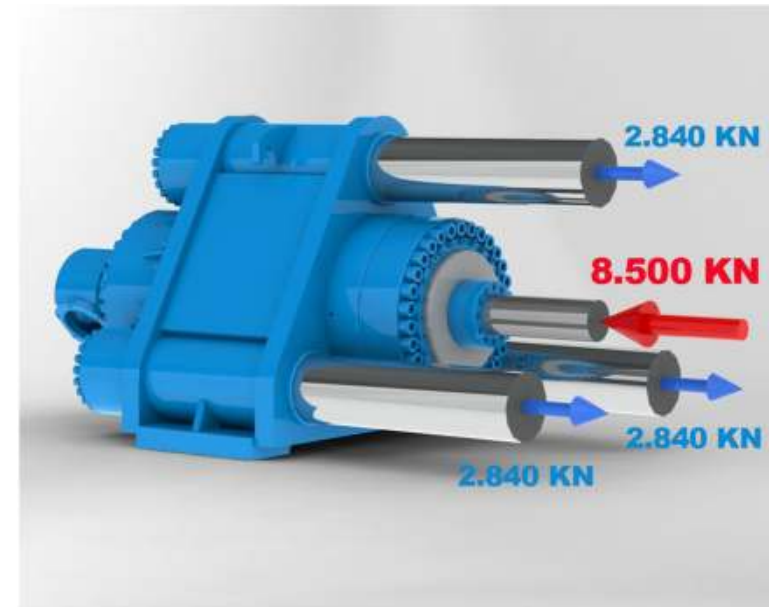
Advantages – Filling-valve

The main advantages of ATM – Briquetting presses



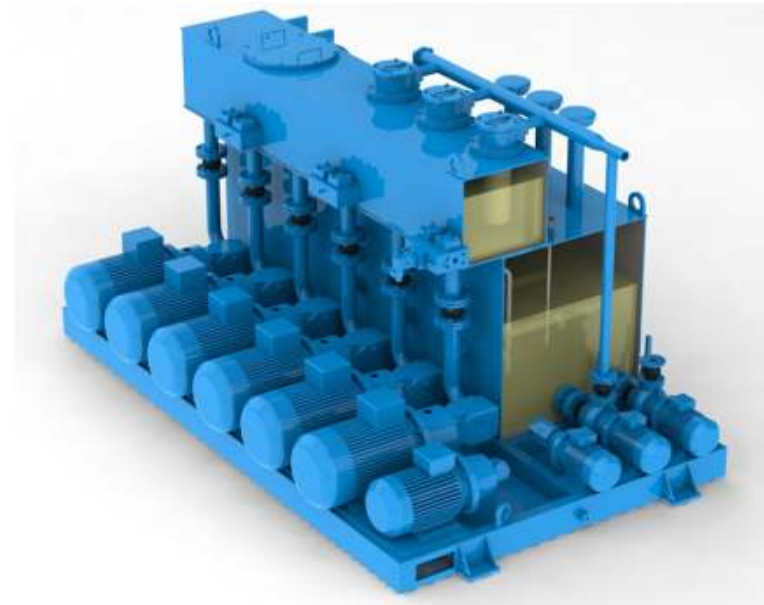
- **Filling-valve for a fast cycle times (depends on the chips 6 sec. possible) but still low heat of the hydraulic oil**
- **Up to 70 % of the oil exchange are going over the filling-valve**
- **less wear on pumps > means longer life time on pumps**
- **less power requirement > up to 30% and more**

The main advantages of the ATM – Briquetting press



- **3 Columns technology, for statically distributed optimal power distribution**
- **best stability of the press push during pressing through the 3-columns**
- **exact columns with pre-tensioned pre-stress and patented columns nuts.**

The main advantages of the ATM – Briquetting press



- Tank with dual-chamber system and modular external drive units with ATM developed additive pump switching technology PZT.
- Separate pumps for cooling circuits, filters and tank filling.
- Programmable pressure and level controls.

Advantages of ATM –Briquetting presses



Sorting drum, shaking screen, long parts separator, steel plates conveyor, screw conveyor, chip bunker, weighing system (hopper), Dosing systems, Briquette transport belts, chip breaker, centrifuge and so on..

- **Materials:**

Steel, Cast iron, Aluminium, Magnesium, Titanium, Copper, Brass, Nickel, Stainless steel, Grinding slag, Tyre wire, and so on.

- **Materials:**

chips, dust, sludge and mix briquettes out of different materials and qualities

- **Samples:**

We can test a small quantity chips free of charge for you.



Titanium



Copper



Aluminium



Steel



Tyre wire



Steel sludge



Stainless steel



Electronic plates



Electronic Copper

Advantages on the product

Factors of Success



- reduction of the material volume
- transport and storage savings
- less than two percent moisture left into the briquette
- less burning material during the melting process trough high density briquettes and so on.



**4.000 m² production area / 20.000 m² total area , 20-30 units per year
100.000 production hours / 15.000 hours of engineering and planing**



- . Service world wide through our specialists
- . Fault-analyses via modem
- . References world wide
- . Cooperation with universities and research institutions

