

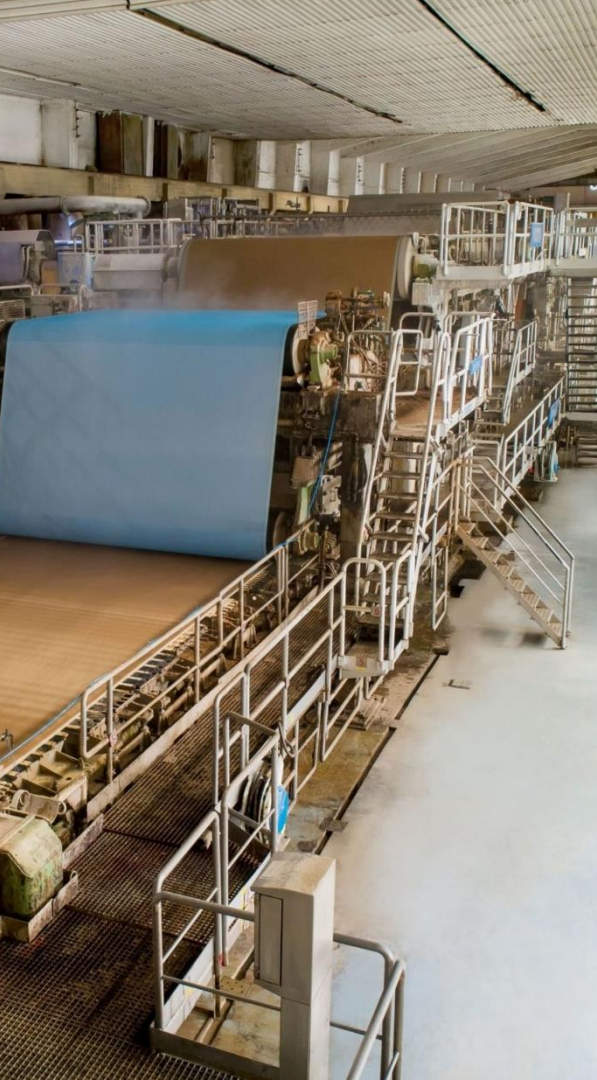
derypol

PULP & PAPER

UNIQUE TECHNOLOGIES

IMPROVING PRODUCTIVITY AND PAPER QUALITY





INDEX

Products for improving
papermaking processes

HIMOLOC & HYDROSOL TECHNOLOGIES

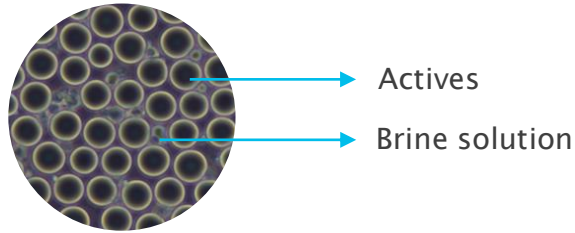
PAPER MILL APPLICATION POLYMERS

- Retention & Drainage
- Dry & Wet Strength
- Ply Bond Agent
- Fibers Recovery
- Wastewater Treatment

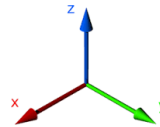
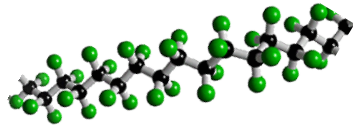
GREEN LIQUOR (PULP) TREATMENT

REGULATORY

What is **HIMOLOC** Technology?



- **Polyacrylamides (PAM) in water dispersion form**
- Pure vs. dissolved aspect
- Ionic charge: Cationic, Anionic, Non-ionic and Amphoteric
- Estructure: Linear and Cross-linked



Micropolymers with 3D structure (greater charge accessibility → Increases Reactivity)



Pure product

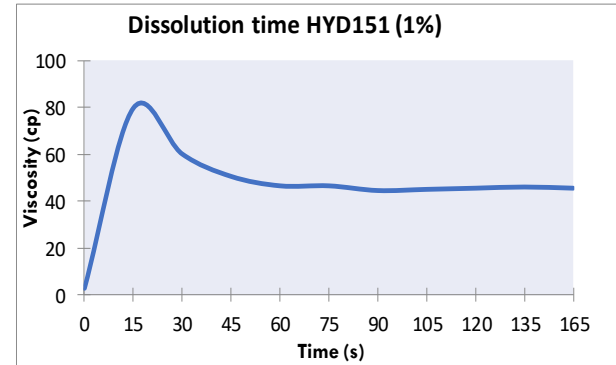
Solution at 1%

What is **HYDROSOL** Technology?

- **Polymer in polymer solution**
- Pure Product: Whitish - yellowish viscous liquid
Solution: Transparent
- **Composition:** CPAM (AAM/ADAMQUAT or AAM/DADMAC) + pDADMAC
- Very Low Salt Content
- 'Two in One': contains coagulant/ATC (improves drainage) and flocculant (improves retention)
- Very **EASY-TO-USE**: Fast Dissolution (Static mixers)



Pure product Solution at 1%




HIMOLOC & HYDROSOL TECHNOLOGIES

Traditionally, high molecular weight **acrylamide based** polymers are found in oil emulsion or powder form. HIMOLOC and HYDROSOL Technologies develop polymers in **water based form**.


EMULSIONS

- Contain surfactants and mineral oils
- VOC's emissions
- Expensive make-down equipment




POWDERS

- Small dust particles that can contaminate the atmosphere and be explosive
- Very Expensive make-down equipment

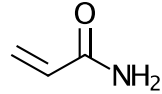


HIMOLOC & HYDROSOL

- **Free of solvent, oil and surfactants**
- **NO VOC's emissions**
- **Easy make-down equipment**



HIMOLOC & HYDROSOL FORMULATION



AAM: Acrylamide
 C_3H_5NO
 71.08 g/mol

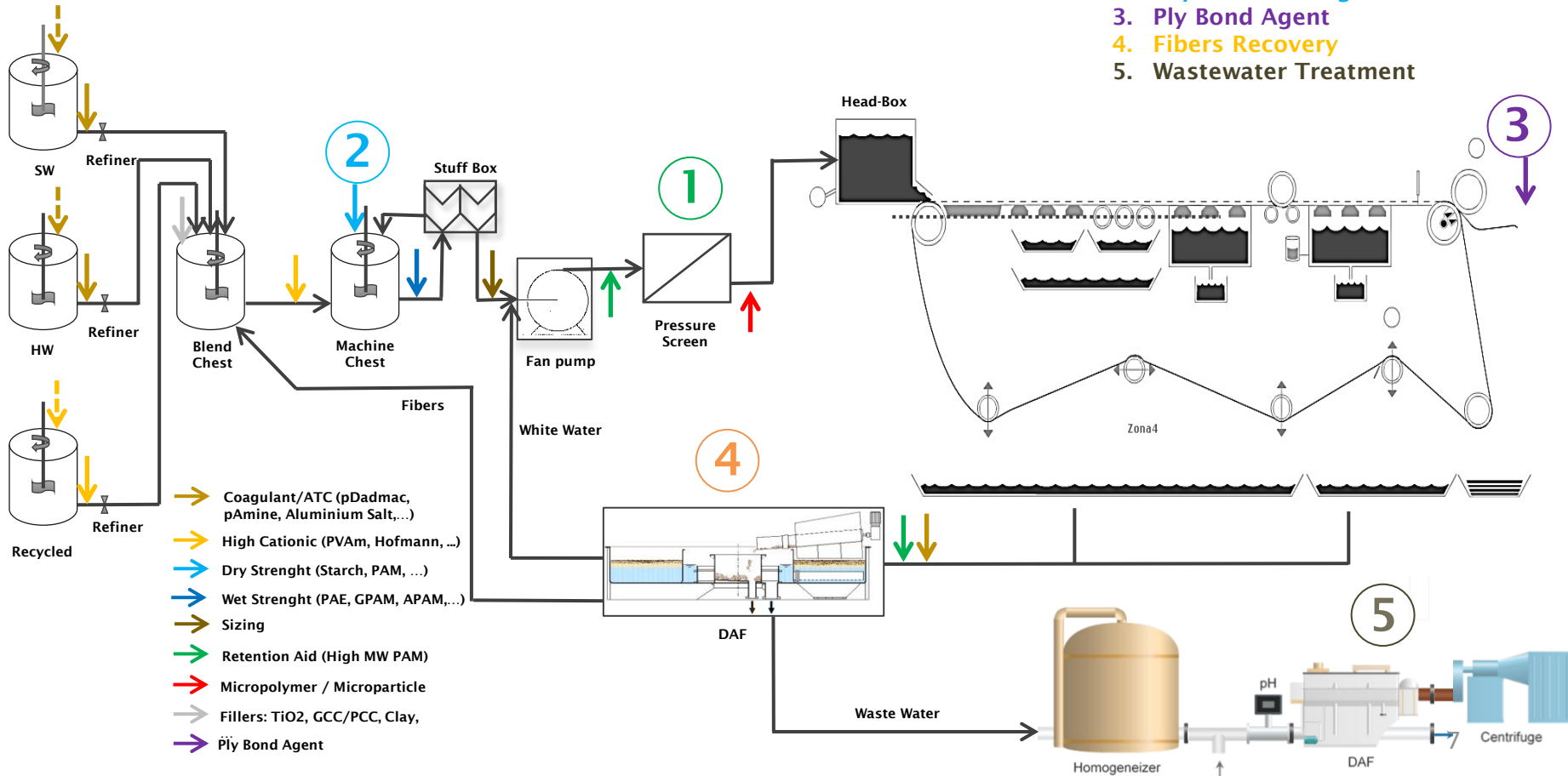


Base monomer for the
 formulation of PAM's
 (Polyacrylamides)

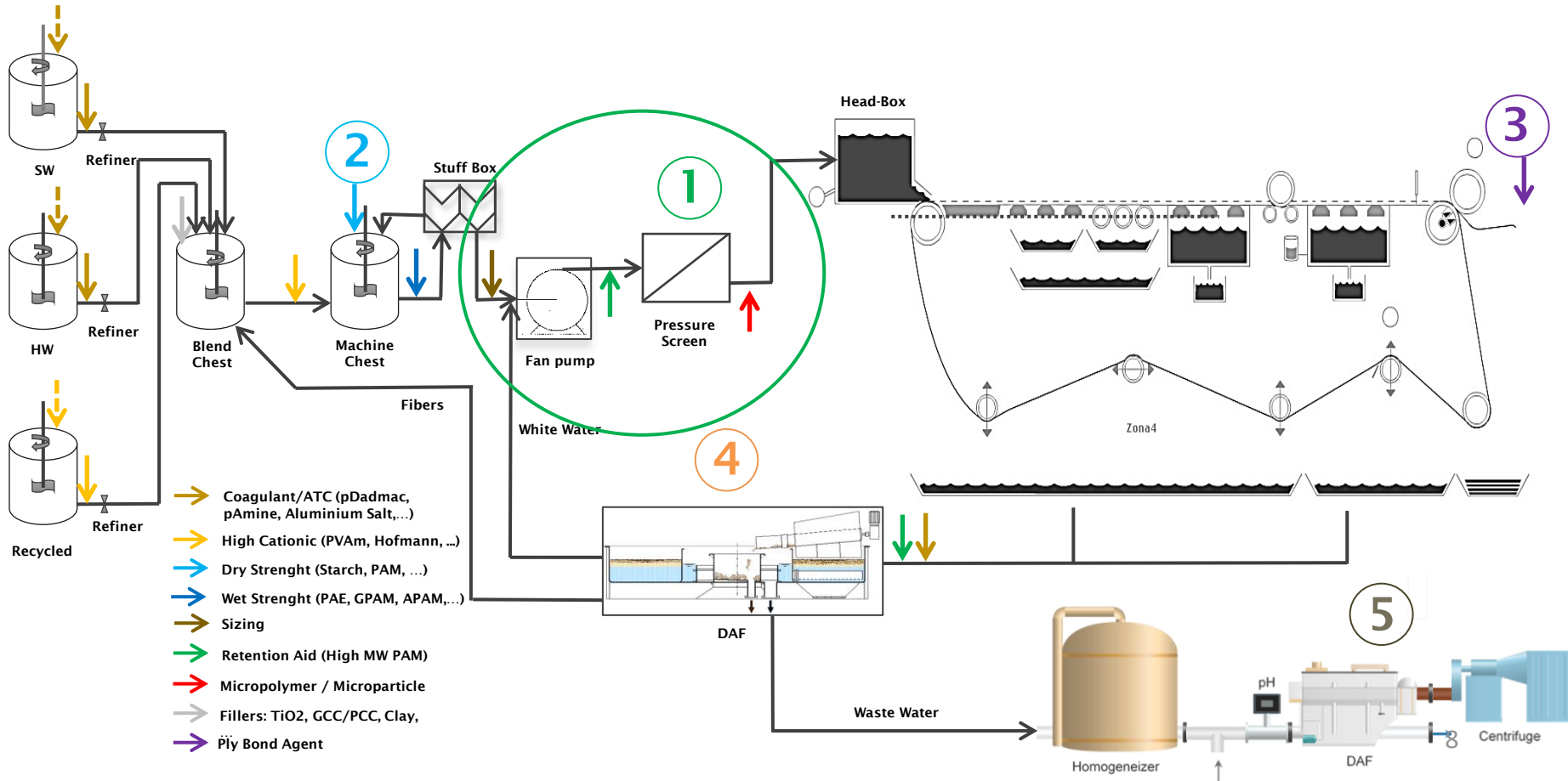
| CATIONIC MONOMERS | | | | | ANIONIC MONOMERS | |
|--------------------|--|---|---|--|--|--|
| Name | DADMAC | MADAMQUAT | ADAMQUAT (MCQ) | BZQUAT (BZQ) | AA | AMPS |
| Chemical structure | <p>DADMAC $C_8H_{16}ClN$ 161.67 g/mol</p> | <p>Madamquat or MC75 $C_9H_{18}ClNO_2$ 207.7 g/mol</p> | <p>Adamquat or MC80 $C_8H_{16}ClNO_2$ 193.45 g/mol</p> | <p>Benzoquat $C_{14}H_{20}ClNO_2$ 269.77 g/mol</p> | <p>Acrylic Acid $C_3H_4O_2$ 72.06 g/mol</p> | <p>NaAMPS $C_7H_{12}NNaO_4S$ 229.23 g/mol</p> |
| Benefits | Helps neutralise the negative surface charge of colloids | Very high molecular weights can be obtained | Allows high molecular weights to be obtained at reasonable cost | Unique DERYPOL monomer with hydrophobic part for systems with grease and/or high conductivity | Very high molecular weights can be obtained | High resistance to hydrolysis. For systems with acid pH and/or high temperatures and pressures |

PAPER MILL APPLICATION POLYMERS

1. Retention & Drainage
2. Dry & Wet Strength
3. Ply Bond Agent
4. Fibers Recovery
5. Wastewater Treatment



1. RETENTION & DRAINAGE POLYMERS



1. RETENTION & DRAINAGE POLYMERS

| HIMOLOC | Cationicity (%) | Composition | (UL) | Viscosity | Actives |
|----------|-----------------|-------------|------|-----------|---------|
| DR2500 | 10% | AAM/BZQ | 3,4 | <400 cP | 15% |
| DR1020 | 10% | AAM/BZQ | 3,6 | <700 cP | 20% |
| DR525 | 10% | AAM/BZQ | 3,6 | <1.500 cP | 25% |
| TG325 | 10% | AAM/MCQ | 4,3 | <1.500 cP | 20% |
| TG971 | 14% | AAM/MCQ | 4,5 | <1.500 cP | 20% |
| HB3522 | 15% | AAM/MCQ | 3,7 | <1.500 cP | 23% |
| TG22 | 20% | AAM/MCQ | 3,2 | <5.000 cP | 25% |
| TG992SIM | 20% | AAM/MCQ | 5,0 | <3.000 cP | 20% |

| HIMOLOC | Anionicity (%) | Composition | (UL) | Viscosity | Actives |
|---------|----------------|-------------|------|-----------|---------|
| GO2000 | NO IONIC | AAM | 3,9 | <2.000 cP | 20% |
| GO2010 | 10% | AAM/AAC | 5,1 | <3.000 cP | 25% |
| GO2030 | 30% | AAM/AAC | 5,6 | <2.000 cP | 25% |

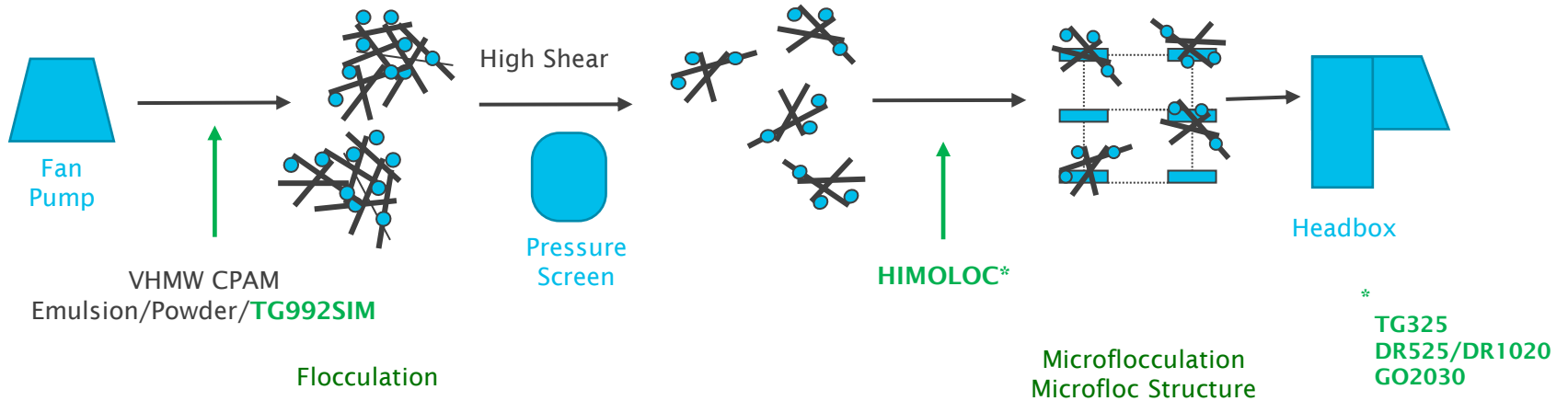
| HYDROSOL | Cationicity (%) | Composition | (UL) | Viscosity | Actives |
|----------|-----------------|-------------|------|------------|---------|
| HYD151 | 10% | AAM/MCQ | 3,5 | <12.000 cP | 30% |
| HYD252 | 38% | AAM/DADMAC | 1,8 | <12.000 cP | 30% |

- **TG325:** Cationic Best-Selling Mycropymer. Specially used in unbleached packaging grades
- **GO2030:** Anionic Best-Selling Mycropymer. Specially used in printing and writing grades
- **DR Series:** Specially used in circuits with high conductivity
- **TG22 / HB3522:** Hybrid Polymers
- **HYD151:** Best-Selling Hydrosol. Improves Drainage
- **TG992SIM:** SIM Technology. Special designed for improving Drainage
- **GO2000:** Non Ioinic PAM. Easy to dissolve

1. RETENTION & DRAINAGE PROGRAMS

Exclusive Programs

1. **Simple Retention System:** 1 HIMOLOC Polymer
 - Low conductivity → **TG325 / TG992SIM**
 - High conductivity (>3500 $\mu\text{s}/\text{cm}$) → **DR525/DR1020**
2. **Dual Retention Program:** VHMW CPAM + HIMOLOC Polymer

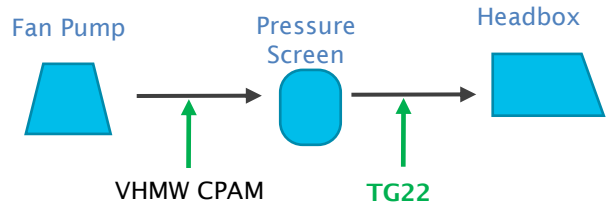


1. RETENTION & DRAINAGE PROGRAMS

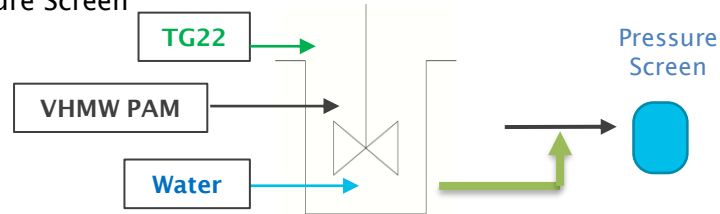
Exclusive Programs

3. Hybrid Programs: VHMW CPAM + HIMOLOC Polymer

- i. VHMW CPAM + HIMOLOC Hybrid Polymer (TG22) → As Dual Retention Program



- ii. One Way Tank: VHMW Powder / Emulsion + HIMOLOC Hybrid Polymer (TG22) → Dissolved in the same tank and dosed before Pressure Screen



- iii. One Way Product: HIMOLOC Hybrid Polymer (HB3522):

- Combines VHMW HIMOLOC and TG22 in one product
- Dosed before or after Pressure Screen depending on the System Conditions

1. RETENTION & DRAINAGE POLYMERS WITH SIM TECHNOLOGY

Exclusive Technology

- **TG992SIM** is manufactured under SIM Technology (**Spongeability Inducer Micronet**)
- Drainage is related with the electrostatic floc volume and resistance, as can be easily understood in the Figure 1
- Figure 2 shows the maximum Spongeability level reached by **TG992SIM** compare with other similar PAM's

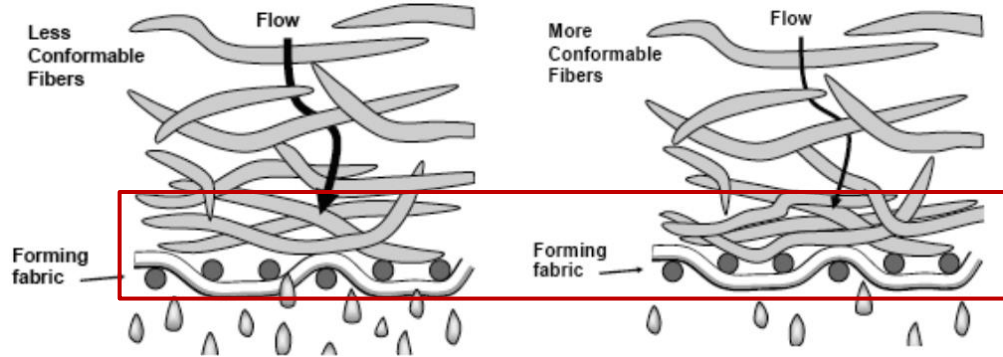


Figure 1

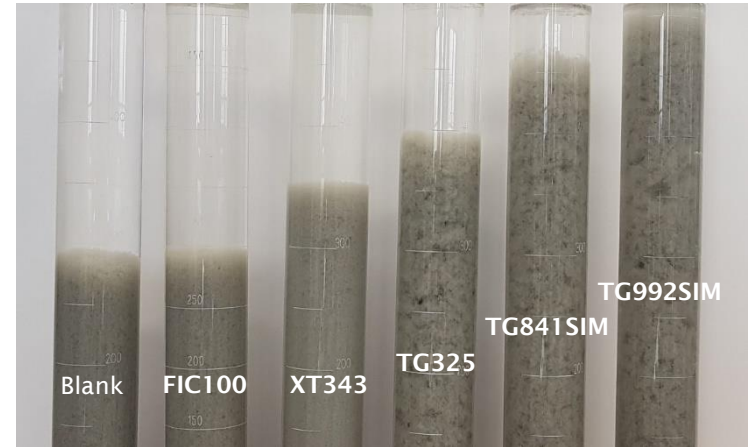


Figure 2 (300 g/Tn Actives)

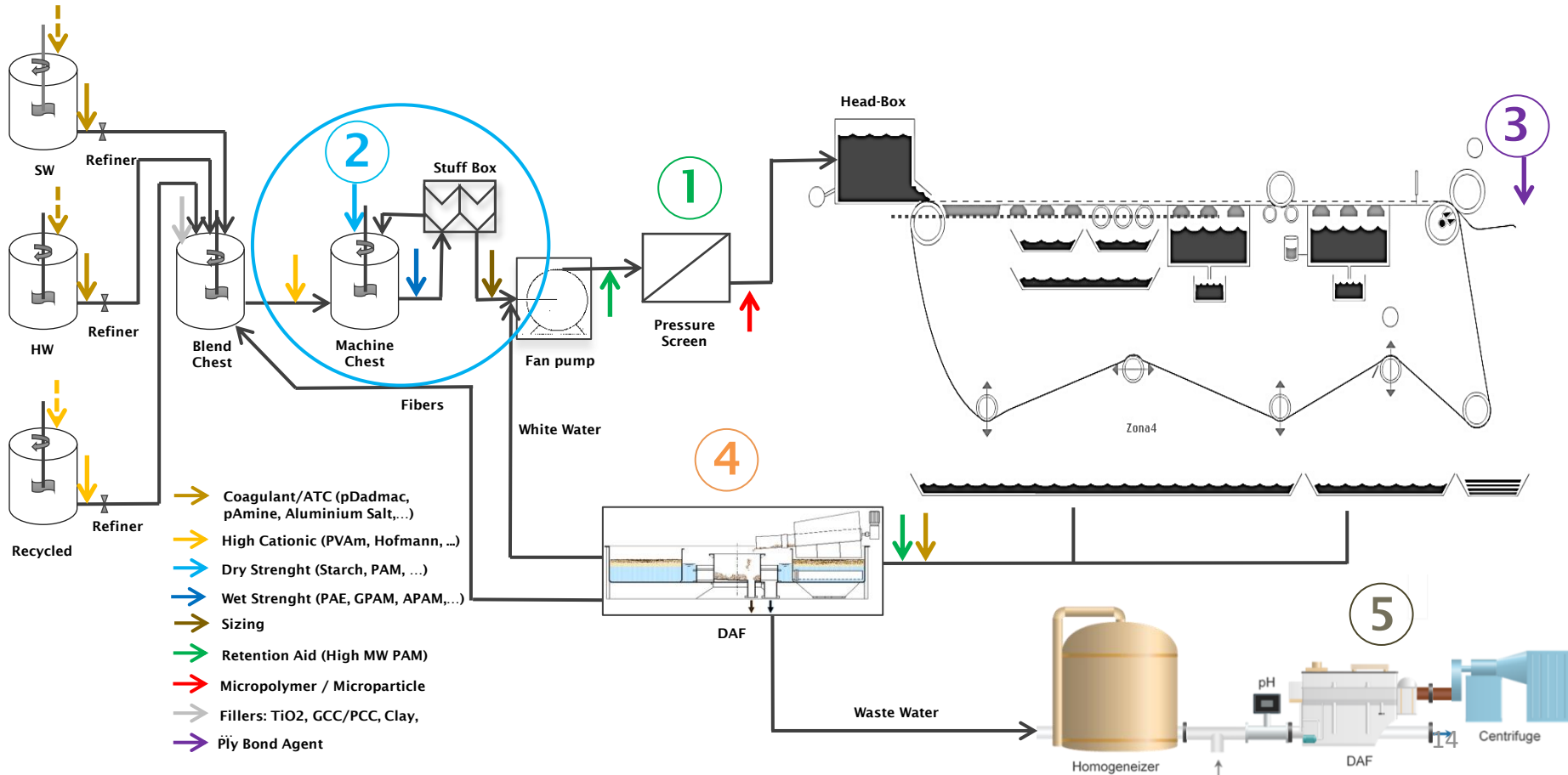
1. RETENTION & DRAINAGE POLYMERS BENEFITS

HIMOLOC & HYDROSOL Technology Benefits:

- GREEN Polymers: Free of VOC's and Mineral Oils
- EASY-TO-USE → Static mixers
- Micropolymers (3D Structure) → charge is very accessible, increasing reactivity
- Microflocculation → Better Sheet formation
- Hydrosol: 'Two in One' → contains coagulant (ATC) and polymer (PAM)
- Exclusive Retention & Drainage Programs
- Exclusive SIM Technology
- Increases Retention of Fibers and Fillers and maximizes Drainage without compromising pressing efficiency
- Improves Deposit Control → Cleaner Circuits
- Improves Fines and Ash Distribution → better strength and optical properties



2. DRY & WET STRENGTH POLYMERS

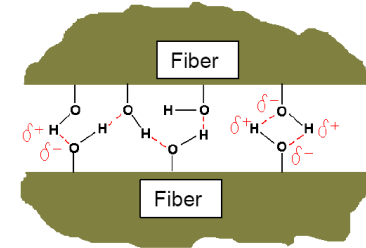


2. DRY & WET STRENGTH POLYMERS

| Product | Description | Ionicity | pH | Viscosity | Actives |
|---------|----------------|------------|-----------|-------------------|---------|
| RS15 | PAM (Solution) | Amphoteric | 2,0 - 4,0 | 2.000 - 5.000 cP | 15% |
| RS19 | PAM (Solution) | Amphoteric | 3,0 - 5,0 | 5.000 - 15.000 cP | 16% |
| RS21A | PAM (Solution) | Anionic | 4,0 - 6,0 | 4.000 - 8.000 cP | 25% |

| HIMOLOC | Description | Ionicity | pH | Viscosity | Actives |
|---------|------------------|----------------|-----------|-----------|---------|
| ZW261 | PAM (Dispersion) | Amphoteric | 4,0 - 6,0 | <2.000 cP | 22% |
| RX4 | PAM (Dispersion) | Amphoteric | 4,0 - 6,0 | <1.000 cP | 21% |
| RX44B | PAM (Dispersion) | Amphoteric | 4,0 - 6,0 | <1.000 cP | 21% |
| GOX301 | PAM (Dispersion) | Medium Anionic | 3,0 - 5,0 | <2.000 cP | 25% |
| GOX101 | PAM (Dispersion) | Low Anionic | 3,0 - 5,0 | <2.000 cP | 25% |

- Improves **Mechanical Properties** and **Sheet Formation** by increasing strength of **Chemical Bonds** (Hydrogen-Hydrogen, Ionic and Covalent bonds)



- Suitable for a wider range of pH and conductivity circuits
- Decreases wet-end starch consumption** solving environmental problems (COD) and keeping cleaner circuits
- Easy-to-use** Polymers → Pump & Go
- HIMOLOC** Polymers → Higher Actives for Improving Performance/Cost
- GOX301 & GOX101**: New & Exclusive DSA's
- RX4 & RX44B**: New **Multifunctional** DSA's

2. DRY STRENGTH PROGRAMS

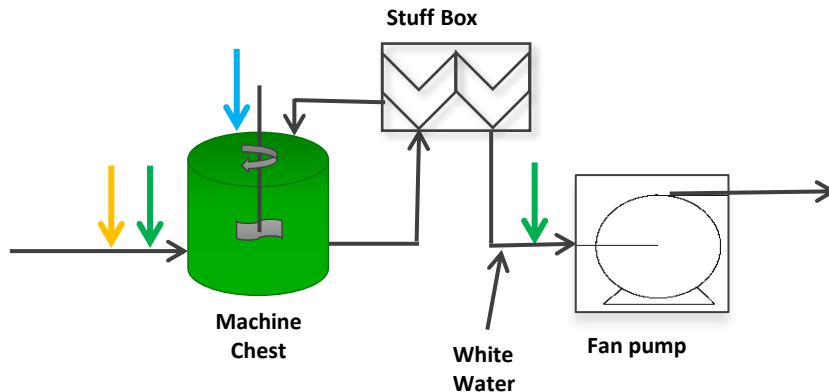
Exclusive Programs

1. Simple Starch Programs:

- ✓ Low conductivity & Acid pH → Alum / Native or Cat Starch + PAM (ZW261 / RS15 / RS19)
- ✓ High conductivity & Neutral pH → Cat Starch + PAM (RS21A / GOX301 / GOX101)

2. Dual Program: Cationic Promoter (HYD151) + PAM (RS21A / GOX301 / GOX101 / ZW261)

3. Full Program: Native or Cat Starch + Anionic PAM (RS21A / GOX301 / GOX101) + Cationic Promoter (HYD151)



Recommended Dosage:

- PAM → 1 - 4 Kg/Tn Actives
- Alum (Al^{+3} Salt) → 2 - 5 Kg/Tn Solids
- Starch → 4 - 10 Kg/Tn Solids
- HYD151 → 2 - 8 Kg/Tn as is

- High Cationic Promoter (HYD151)
- Dry Strength Polymer (Starch, PAM, ...)
- Alum (Al^{+3} Salt)

2. DRY STRENGTH MULTIFUNCTIONAL

HIMOLOC RX4 & RX44B

- 1 STRENGTH**
Improvement of different Dry Strength Properties
- 2 RETENTION**
Increases Retention of Fibers and Fillers
- 3 DRAINAGE**
Maximizes Drainage without compromising pressing efficiency increasing Machine Speed
- 4 FIXATION**
Improvement of different printing-related properties



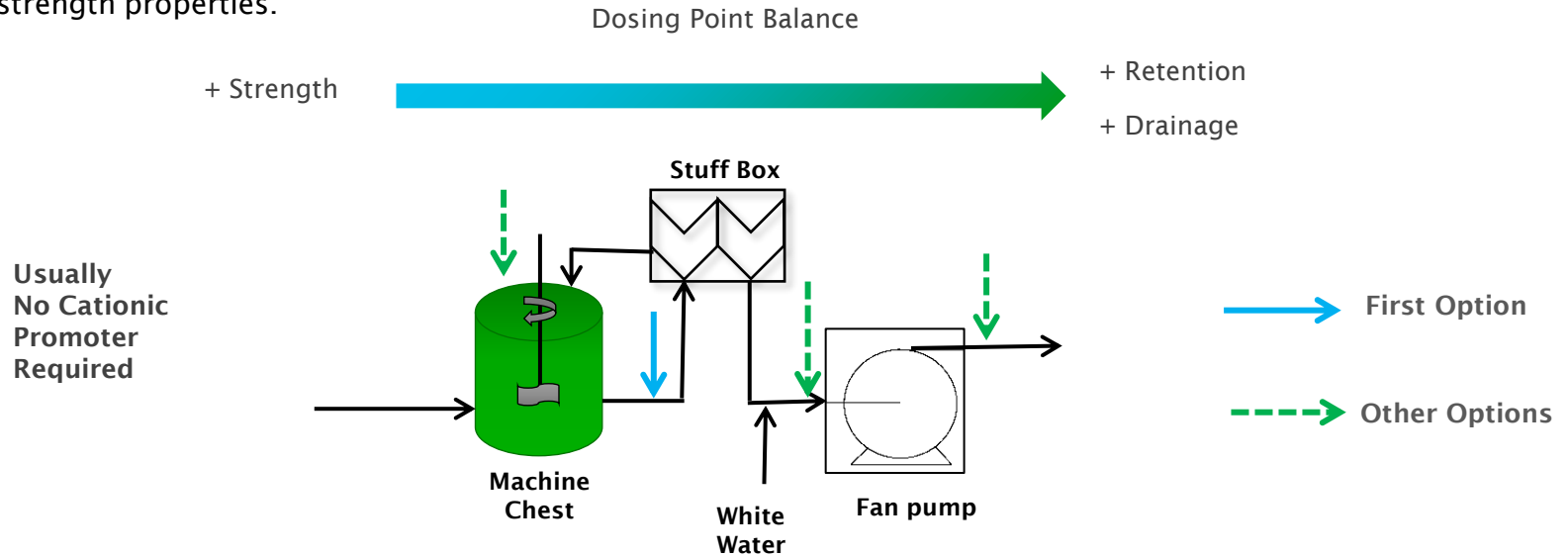
BENEFITS

- ✓ **SIMPLICITY**
 - Reduced wet-end complexity
 - Easy to Use
- ✓ **STABILITY**
 - Cleaner Circuits
 - Fewer Breaks
 - Better Paper Properties
- ✓ **Enhance Dry Strength, Sizing and Productivity**
 - Improves Sizing Efficiency
 - Improves Runnability
- ✓ **Improve Performance Cost**
 - Energy (steam) savings
 - Allows to use lower-cost fibers (recycled)

2. DRY STRENGTH MULTIFUNCTIONAL

HIMOLOC RX4 & RX44B APPLICATION

Dosing point depends on your needs. The closer to the Head-Box the better the retention and drainage but the lower strength properties.



Recommended Dosage: 4 - 12 Kg/Tn as is

2. DRY & WET STRENGTH POLYMER

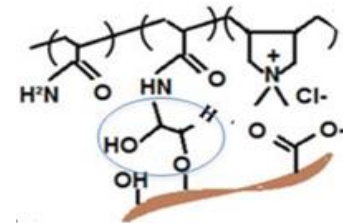
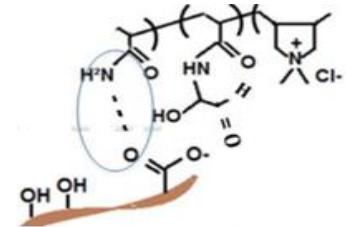
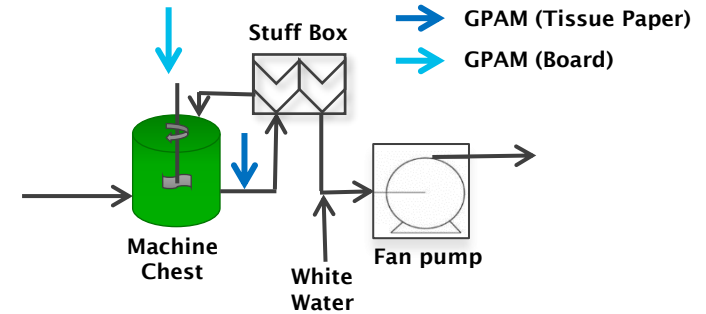
Cationic Glixalated PolyAcrylamide (GPAM)

| Product | Description | Ionicity | pH | Viscosity | Actives | Shelf Life |
|---------|-----------------|----------|-----------|-----------|---------|------------|
| ADG1 | GPAM (Solution) | Cationic | 2,0 - 3,0 | <25cP | 7% | < 1 month |

Recommended Dosage: 1,0 - 2,5 Kg/Tn Actives (15 - 35 Kg/Tn as is)

GPAM Benefits:

- **Permanent Dry Strength** → The amino group reacts with the hydroxyl groups and carboxyl groups of cellulose forming **hydrogen bonds**
- **Temporary Wet Strength** → The aldehyde groups react with hydroxyl to form **covalent and hemiacetalic bonds** (transient formation of low grade cross linking)
- Suitable for 4<pH<7 and conductivity <3.000 cP
- Specially used in Tissue Paper
- Possibility to Manufacture On Site (Paper Mill)



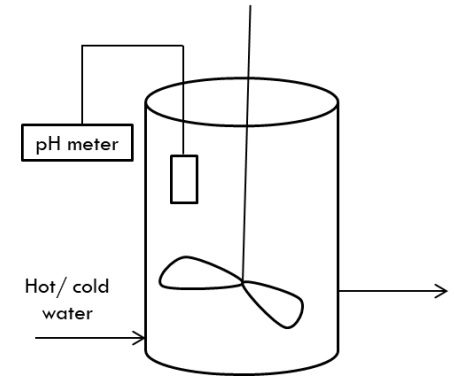
Non-commercially viable → **Technology Transfer**

2. DRY & WET STRENGTH POLYMER

GPAM → Technology Transfer from K244

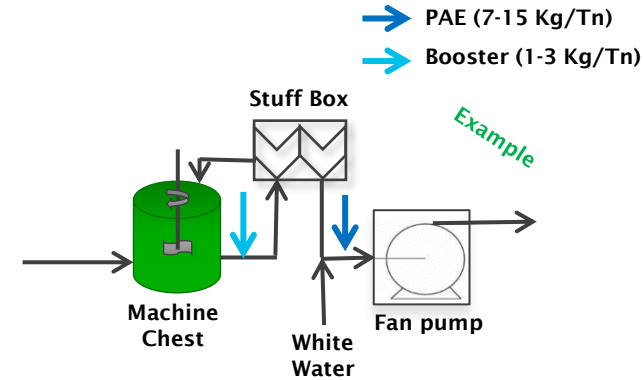
| Product | Description | Ionicity | pH | Viscosity | Actives | Shelf Life |
|---------|-----------------------|----------|-----------|-----------|---------|------------|
| K244 | Dadmac /Aam Copolymer | Cationic | 4,0 - 6,0 | <1.500 cP | 44% | 12 months |

- On site GPAM has generated renewed interest in an older technology due to increased strength and drainage performance, extended shelf life, and reduced freight costs
- Cross-linked reaction of our K244 with glyoxal
- No High-Tech Equipment needed
- Low manufacturing process cost
- Different formulations available with different stability and performance
- **Technology Transfer** including Lab and Industrial Training AVAILABLE



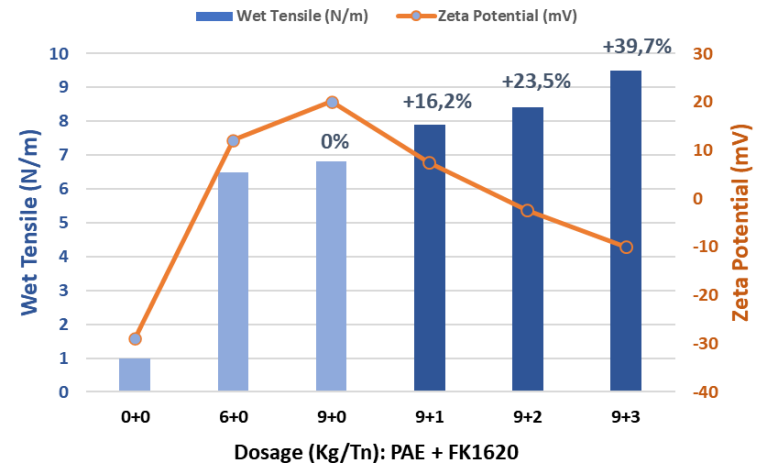
2. WET STRENGTH BOOSTER POLYMERS

| Product | Description | Ionicity | pH | Viscosity | Actives |
|---------|----------------|----------|-----------|----------------|---------|
| FK1620 | PAM (Solution) | Anionic | 3,5 - 5,0 | 3.000-7.500 cP | 20% |
| RS21A | PAM (Solution) | Anionic | 4,0 - 6,0 | 4.000-8.000 cP | 25% |

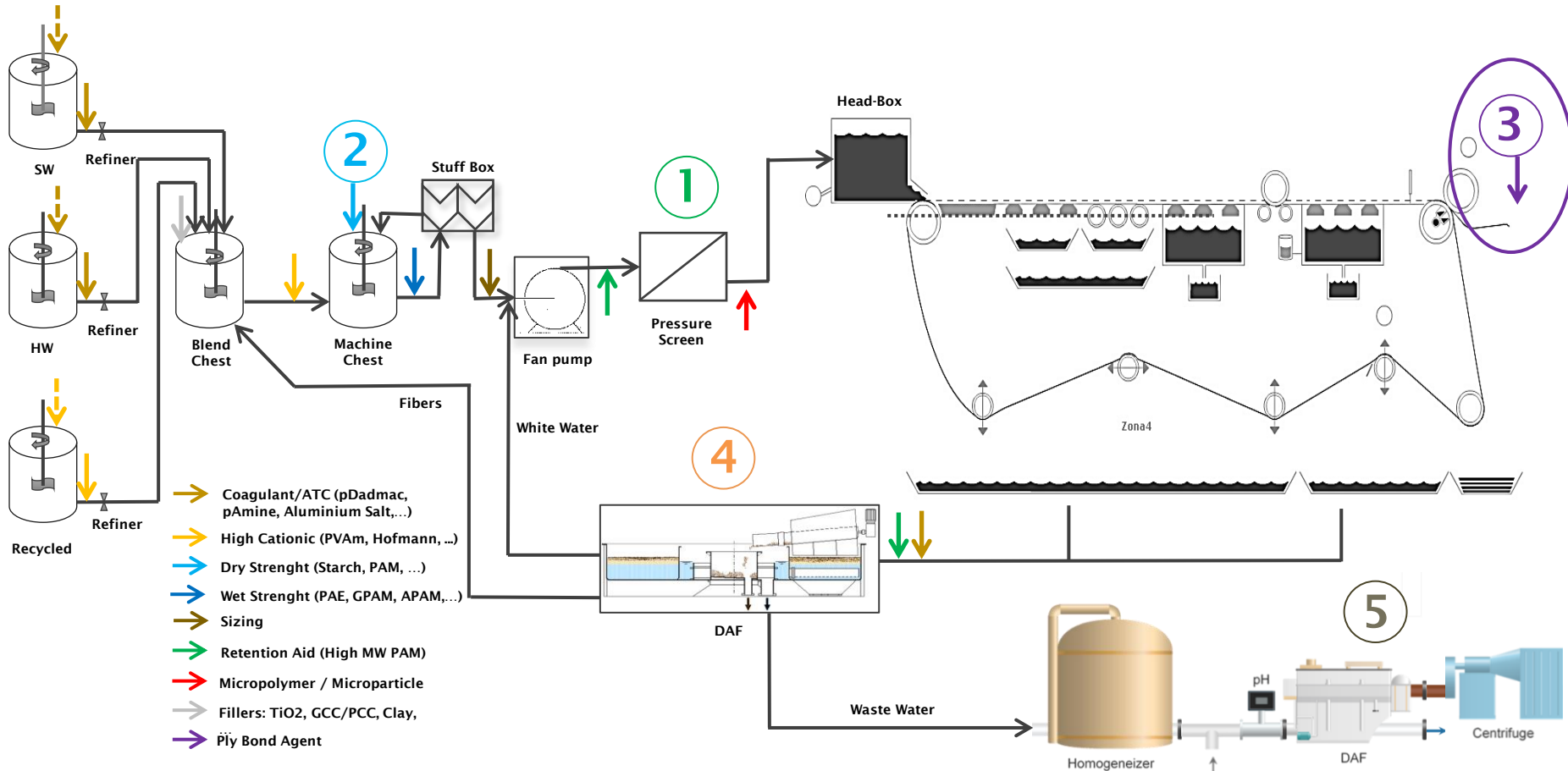


Benefits:

- Booster reverses the fiber charge to anionic, providing extra sites for retention of cationic WSR → Improves **PAE (Polyamino Polyamide Epichlorohydrin) Fixation**
- Increases **Dry and Wet Tensile**
- **Reduces PAE dosage** up to 30%
- Helps to **Control Zeta Potential**
- **Reduces Defoamer** dosage up to 40%
- **Enhances Creping control** increasing Yankee speed
- Improves Machine runnability and Production rate
- Easy-to-use → **Pump & Go**
- **Economical Savings**



3. PLY BOND AGENT

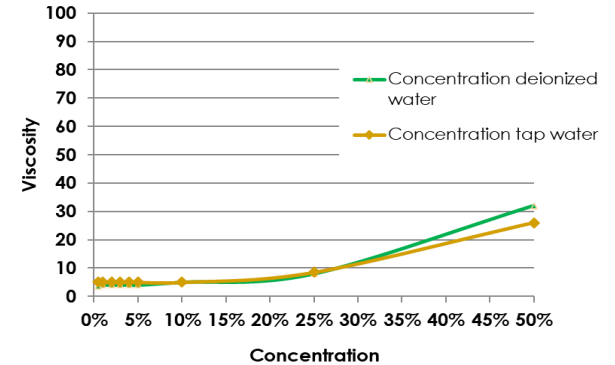


3. PLY BOND AGENT

| HIMOLOC | Description | Ionicity | Molecular Weight | pH | Viscosity |
|---------|------------------|----------|------------------|-----------|-----------|
| MJ480 | PAM (Dispersion) | Anionic | Very High | 2,0 - 4,0 | <1.500 cP |

Benefits:

- **Replaces** partially **native starch** as ply bond (it can replace up to 50% with 1:10 replacement ratio)
- **Improves Mechanical Properties** (Scott Bond, Burst, CMT,...)
- Reducing starch consumption **decreases COD in Waste Water and keeps cleaner circuits**
- Decrease Steam Consumption and Improves Runnability: **Lower Tg**
- **Green Chemical** Polymer (HIMOLOC)
- Better **Environmental** Image: Decrease Footprint
- **Easy-to-use**: Dose directly to starch slurry tank without increasing final viscosity
- **ECONOMICAL SAVINGS**



3. PLY BOND AGENT

SIMPLE DOSING SYSTEM

SLURRY



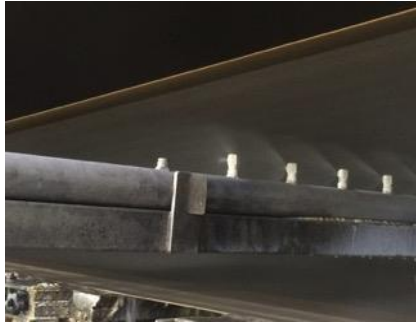
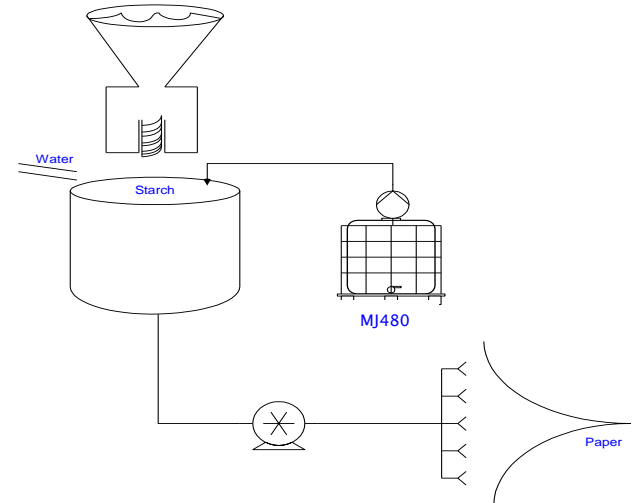
STARCH



MJ480

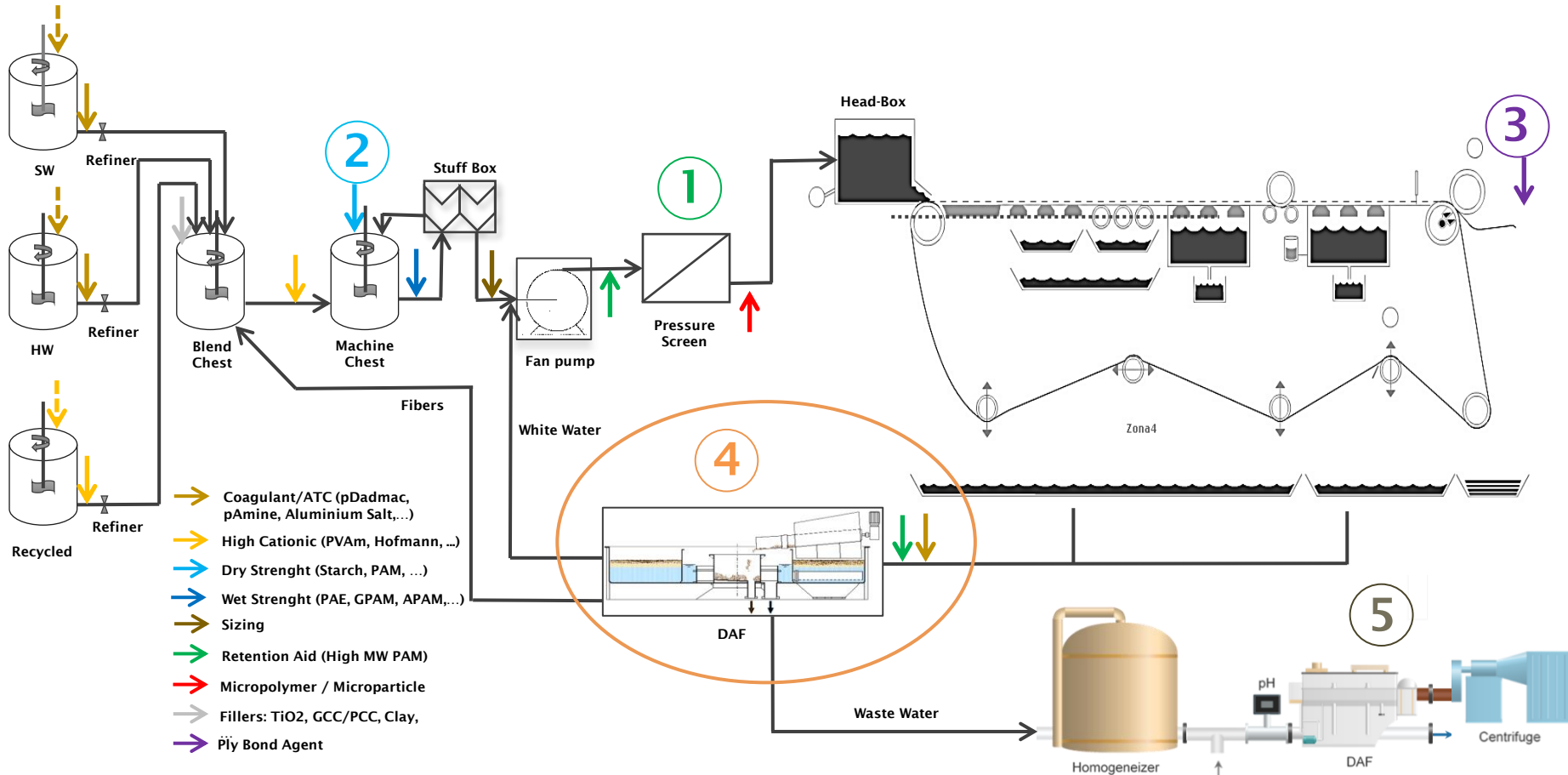


MIXER

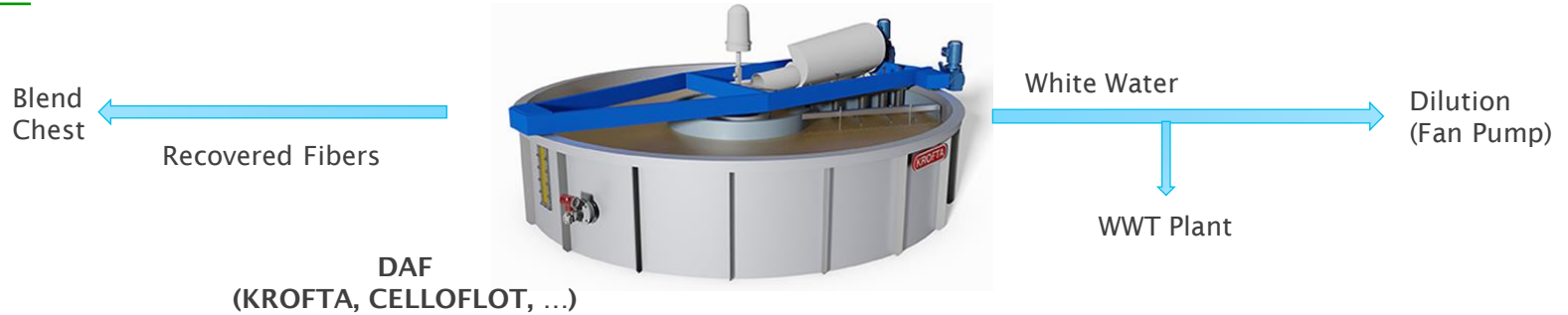


SLURRY SPRAY
DOSING

4. FIBERS RECOVERY



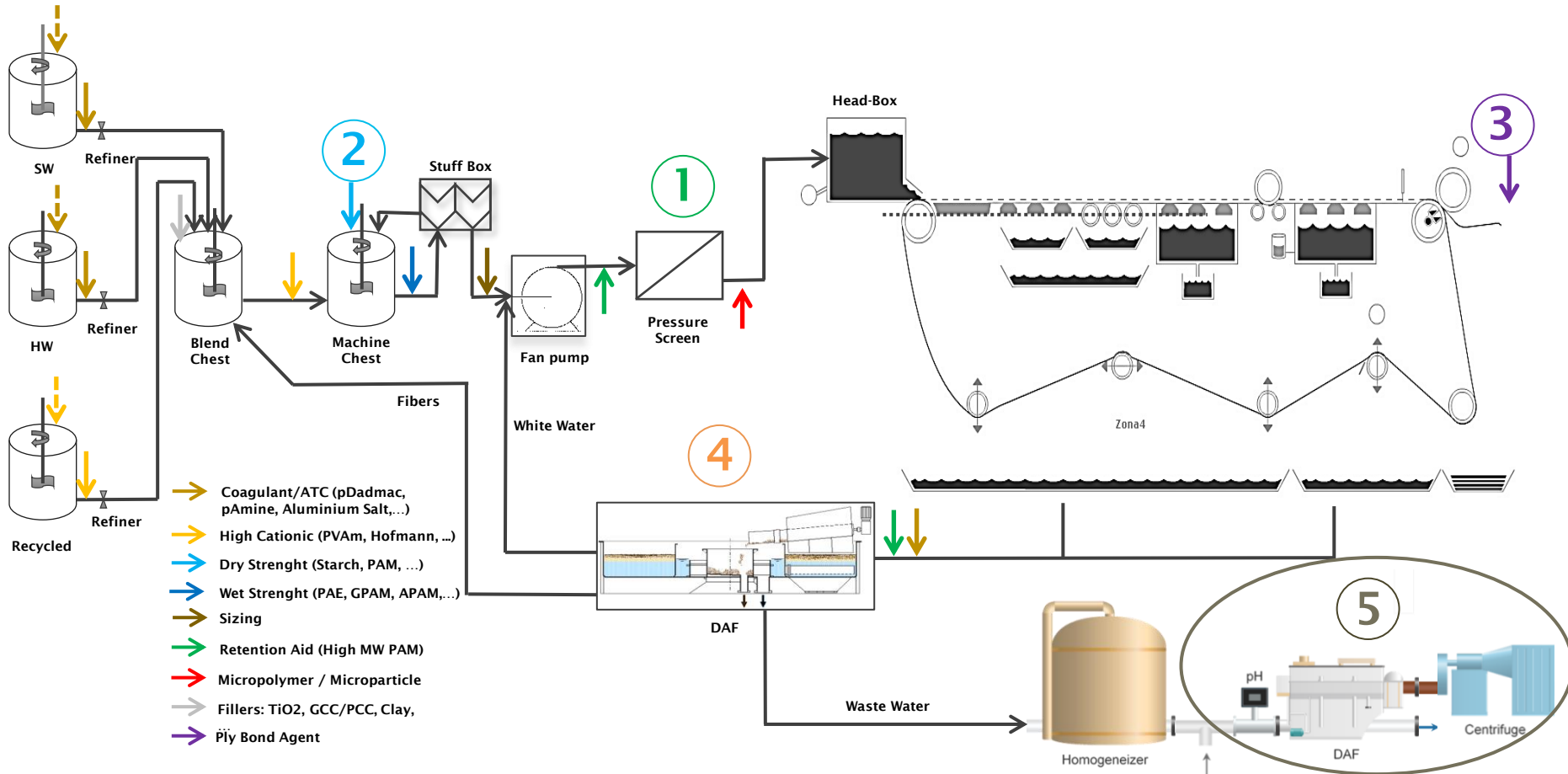
4. FIBERS RECOVERY POLYMERS



| HIMOLOC | Ionic Charge | Ionicity (%) | Composition | (UL) | Viscosity |
|----------|--------------|--------------|-----------------|------|-----------|
| DR2200 | Cationic | 4% | AAM/BZQ | 3,3 | <1.000 cP |
| DR2500 | Cationic | 10% | AAM/BZQ | 3,4 | <400 cP |
| DR525 | Cationic | 10% | AAM/BZQ | 3,6 | <1.500 cP |
| TG992SIM | Cationic | 20% | AAM/MCQ | 5,0 | <2.500 cP |
| GO2000 | No Ionic | 0% | AAM | 3,9 | <2.000 cP |
| GO2010 | Anionic | 10% | AAM/AAC | 5,1 | <3.000 cP |
| GO2030 | Anionic | 30% | AAM/AAC | 5,6 | <2.000 cP |
| GO7130 | Anionic | 30% | AAM/AAC/AMPS | 6,2 | <500 cP |
| ZW111 | Amphoteric | 30%/15% | AAM/BZQ/AAC/MCQ | 2,9 | <1.500 cP |
| ZW322 | Amphoteric | 50%/20% | AAM/BZQ/AAC/MCQ | 3,0 | <1.500 cP |

- DR525: Cationic Best-Selling Mycropolymer
- GO2030: Anionic Best-Selling Mycropolymer
- DR's: Specially used in circuits with high conductivity
- ZW's: Amphoteric PAM
- Exclusive SIM Technology

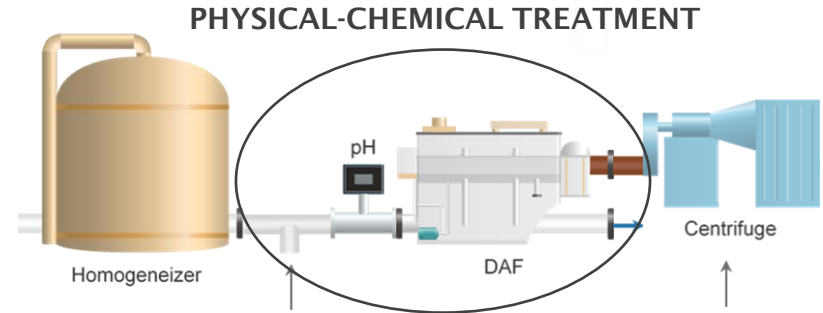
5. WASTEWATER TREATMENT



5. WASTEWATER TREATMENT POLYMERS

| HIMOLOC | Ionic Charge | Ionicity (%) | Composition | (UL) | Viscosity |
|----------|--------------|--------------|-------------|------|-----------|
| DR2200 | Cationic | 4% | AAM/BZQ | 3,3 | <1.000 cP |
| DR525 | Cationic | 10% | AAM/BZQ | 3,6 | <1.500 cP |
| TG992SIM | Cationic | 20% | AAM/MCQ | 5,0 | <2.500 cP |
| TG30 | Cationic | 35% | AAM/MCQ/BZQ | 3,6 | <1.000 cP |
| TG823 | Cationic | 35% | AAM/MCQ/BZQ | 3,6 | <2.500 cP |
| TG995 | Cationic | 50% | AAM/MCQ/BZQ | 5,0 | <2.000 cP |
| TG60 | Cationic | 64% | AAM/MCQ/BZQ | 3,8 | <2.000 cP |

| HIMOLOC | Ionic Charge | Ionicity (%) | Composition | (UL) | Viscosity |
|---------|--------------|--------------|-----------------|------|-----------|
| GO2000 | No Ionic | 0% | AAM | 3,9 | <2.000 cP |
| GO2010 | Anionic | 10% | AAM/AAC | 5,1 | <3.000 cP |
| GO2030 | Anionic | 30% | AAM/AAC | 5,6 | <2.000 cP |
| GO7130 | Anionic | 30% | AAM/AAC/AMPS | 6,2 | <500 cP |
| ZW111 | Amphoteric | 30%/15% | AAM/BZQ/AAC/MCQ | 2,9 | <1.500 cP |
| ZW322 | Amphoteric | 50%/20% | AAM/BZQ/AAC/MCQ | 3,0 | <1.500 cP |



- DR's: Specially used in circuits with high conductivity
- ZW's: Amphoteric PAM
- Exclusive SIM Technology

5. WASTEWATER TREATMENT POLYMERS

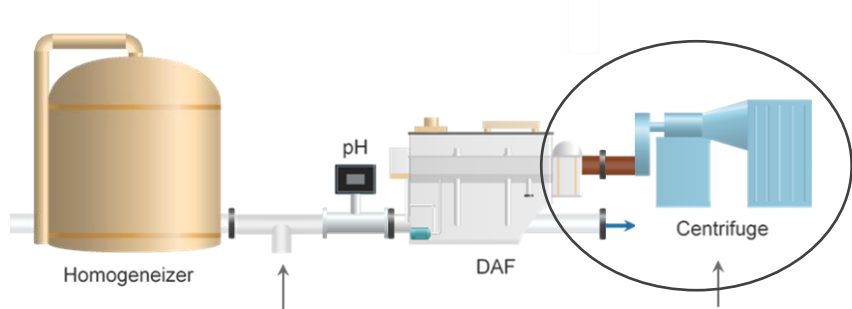
Linear PAM for Screw Press, Belt Press, ...

| HIMOLOC | Ionic Charge | Ionicity (%) | Composition | (UL) | Viscosity |
|----------|--------------|--------------|-------------|------|-----------|
| TG992SIM | Cationic | 20% | AAM/MCQ | 5,0 | <2.500 cP |
| TG30 | Cationic | 35% | AAM/MCQ/BZQ | 3,6 | <1.000 cP |
| TG823 | Cationic | 35% | AAM/MCQ/BZQ | 3,6 | <2.500 cP |
| TG995 | Cationic | 50% | AAM/MCQ/BZQ | 5,0 | <2.000 cP |
| TG60 | Cationic | 64% | AAM/MCQ/BZQ | 3,8 | <2.000 cP |
| TG998 | Cationic | 80% | AAM/MCQ/BZQ | 5,0 | <2.000 cP |

Crosslinked PAM for Centrifuge, Filter Press, Screw Press, ...

| HIMOLOC | Ionic Charge | Ionicity (%) | Composition | MW (UL) | Crosslinke degree | Viscosity |
|---------|--------------|--------------|--------------|---------|-------------------|-----------|
| TX950 | Cationic | 50% | AAM/MCQ /BZQ | 2,0 | Very high | <2.500 cP |
| TX9550 | Cationic | 50% | AAM/MCQ /BZQ | 3,5 | Medium-High | <2.500 cP |
| TX7360 | Cationic | 64% | AAM/MCQ /BZQ | 3,7 | Medium | <2.500 cP |
| TX980 | Cationic | 80% | AAM/MCQ /BZQ | 2,5 | Very high | <2.000 cP |
| TX9880 | Cationic | 80% | AAM/MCQ /BZQ | 3,8 | Medium | <2.500 cP |

SLUDGE DEWATERING



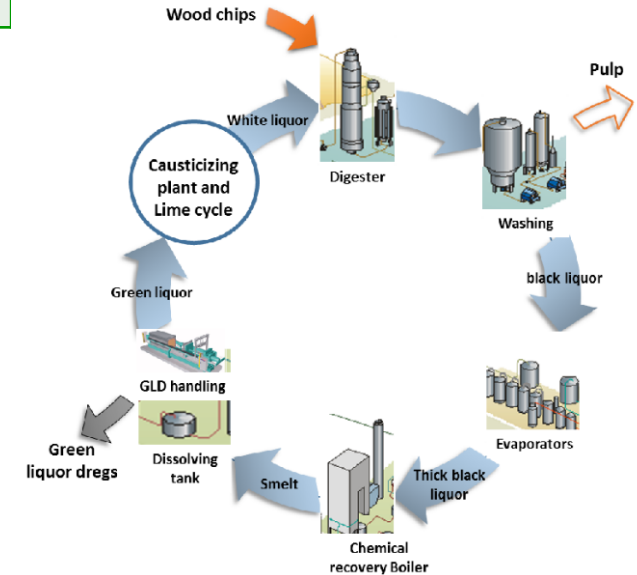
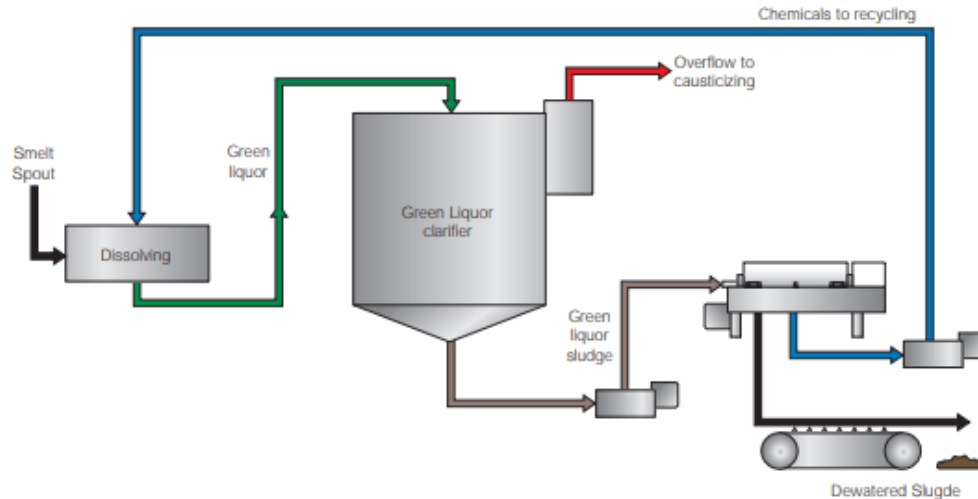
Benefits:

- Free of Solvents and Surfactants → Final Sludge and Water with lower VOC's
- Easy make-down equipment → Static Mixer

GREEN LIQUOR TREATMENT (PULP MILL)

| HIMOLOC | Ionic Charge | Ionicity (%) | Composition | (UL) | Viscosity |
|---------|--------------|--------------|--------------|------|-----------|
| GO5077 | Anionic | 50% | AAM/AAC/AMPS | 5,3 | <1.000 cP |
| DR2500 | Cationic | 10% | AAM/BZQ | 3,4 | <400 cP |
| TG325 | Cationic | 10% | AAM/MCQ | 4,3 | <1.500 cP |

- Exclusive polymers of easy preparation and high efficiency for Green Liquor clarification.



REGULATORY

- **Standard HIMOLOC** established <250 ppm residual AAM
- **Nordic Swan / Ecolabel** - We can provide any of our products under these requirements
- **AB series** - We can provide any of our products with residual Acrylamide Below customer's demand
- **Acrylamide Free** - We also have Acrylamide Free polymers



| Product | FDA | BfR | GB9685 |
|----------|-----|-----|--------|
| ADG1 | X | ✓ | ✓ |
| DR2500 | X | ✓ | X |
| DR1020 | X | ✓ | X |
| DR525 | X | ✓ | X |
| FK1620 | ✓ | ✓ | ✓ |
| GO2000 | ✓ | ✓ | ✓ |
| GO2010 | ✓ | ✓ | ✓ |
| GO2030 | ✓ | ✓ | ✓ |
| GOX301 | ✓ | ✓ | ✓ |
| GOX101 | ✓ | ✓ | ✓ |
| GO7130 | X | X | X |
| HB3522 | X | ✓ | ✓ |
| HYD151 | ✓ | ✓ | ✓ |
| HYD252 | ✓ | ✓ | ✓ |
| K244 | ✓ | ✓ | ✓ |
| MJ480 | ✓ | ✓ | ✓ |
| RS15 | X | ✓ | X |
| RS19 | X | X | X |
| RS21A | ✓ | ✓ | ✓ |
| RX4 | * | * | X |
| RX44B | * | ✓ | X |
| TG22 | X | ✓ | X |
| TG325 | ✓ | ✓ | ✓ |
| TG971 | X | ✓ | X |
| TG992SIM | X | ✓ | ✓ |
| ZW261 | * | * | X |

* Ongoing

PAPER PRODUCTS SUMMARY

01

RETENTION & DRAINAGE

HIMOLOC TG & GO
Cationic/Anionic PAMs -
best seller

HIMOLOC DR
Cationic PAM for High Conductivity
Circuits

HIMOLOC TG22 & GO2030
Improves Drainage and replace PEI's and Microparticles

02

DRY & WET STRENGTH

HIMOLOC ZW & GOX
Amphoteric and Anionic PAMs for dry strength

HIMOLOC RX4 - Multifunctional DSA (4-in-1) Improves Mechanical Properties as well as Retention & Drainage

HYDROSOL series - reduces Cat Starch as well as improves Dry Strength Programs

FK1620 / RS21A - Improves PAE (WSR) fixation and Z Potential Control

K244 - Backbone for GPAM manufacturing

03

PLY BOND AGENT

HIMOLOC MJ480 - Replace Native Starch and improve Mechanical Properties

04

FIBERS RECOVERY

HIMOLOC TG & DR - Cationic PAMs For high conductivity circuits - improves flotation systems

05

WASTEWATER

HIMOLOC TG/TX/DR/GO - PAMs Flocculants for Physical-Chemical treatment

06

GREEN LIQUOR (PULP)

HIMOLOC TG & GO - clarification of the Green Liquor in the Pulping Process

07

PAPER COATING DISPERSION AGENT

BF43M/C150 - Designed for pigmented paper coating formulations to achieve good coater mix stability and rheology.

08

SOFTENING AGENT

SFT24 - cationic emulsion polymer that improves softness & fiber retention in tissue paper

09

DEFOAMERS

DB511SF - silicon-free (FDA/BFR approval)



5 KEY IDEAS TO REMEMBER

UNIQUE TECHNOLOGY

We offer a leading technology in its sector that allows different and more beneficial solutions to be obtained.

GREEN AND BLUE

Our polymers are free of solvents, mineral oils and surfactants. They do not emit VOC's into the atmosphere.

BETTER PERFORMANCE

We adapt composition as well as polymer structure to offer the Best Performance/Cost for each application.

PRODUCTIVITY & QUALITY

Functional and Operational Chemicals for improving Retention & Drainage & Mechanical Properties.

PROGRAMS

Exclusive and Innovative programs to get the most of your processes and protect your business.

**Thank you for
your attention!**

derypol

